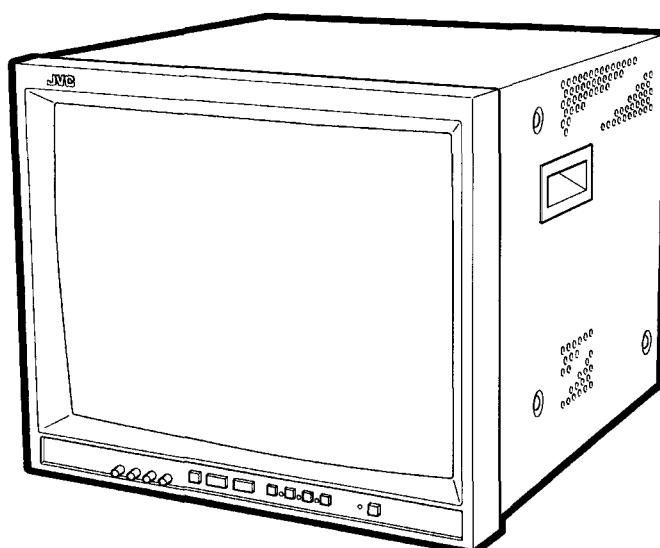


JVC**SERVICE MANUAL****DTV MONITOR**

BASIC CHASSIS

P2B1

DT-V2000SU_{/A}**CONTENTS**

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SPECIFICATIONS

Item	Content	Item	Content
Type	HD multi format monitor	Input terminals	
Picture tube	20" measured diagonally, in-line gun, 90° deflection, dot-trio type (dot-pitch 0.26mm)	Input A	<p>RGB component multi input 1line, BNC connector × 6 (bridge connection possible and auto termination)</p> <p>Analog RGB R, G, B : 0.7Vp-p, 75 Ω G on SYNC : 1.0Vp-p, 75 Ω (negative sync)</p> <p>Y/R-Y/B-Y component Y : 1.0Vp-p, 75 Ω (negative sync) R-Y/B-Y : 0.7Vp-p, 75 Ω</p> <p>480i (ITU-R BT.601-4)/480p(SMPTE293M) Y : 1.0Vp-p, 75 Ω (negative sync) Pb, Pr : 0.7Vp-p, 75 Ω</p> <p>720p(SMPTE296M)/1080i(SMPTE274M) Y : 1.0Vp-p, 75 Ω (3value sync) Pb, Pr : 0.7Vp-p, 75 Ω</p> <p>External synchronization EXT SYNC(HD/Cs, VD) input 1 line, BNC connector × 4 bridge connection possible, auto termination</p> <p>Horizontal/composite synchronization signal HD : 1~4Vp-p, 75 Ω Cs : 1~4Vp-p, 75 Ω Vertical synchronization signal VD : 1~4Vp-p, 75 Ω</p>
Effective screen size		Input B	<p>(When both terminals are connected at the same time, the Y/C terminals given priority)</p> <p>VIDEO input 1 line BNC connector × 2 bridge connection possible, auto termination 1.0Vp-p, 75 Ω (negative sync)</p> <p>Y/C input 1 line mini-DIN 4-pin connector × 1 Y : 1.0Vp-p, 75 Ω (negative sync) C : 0.7Vp-p, 75 Ω (burst signal)</p>
Width	16"(406.4mm)	Input C	PC (RGB) input 1 line, D-sub 3 row 15-pin connector × 1 exclusively for computer signal input SYNC termination : 330 Ω
Height	12"(304.8mm)	AUDIO input	1 line, RCA pin × 1(monaural) 0.5Vrms, high-impedance
Diagonal	20"(508mm)	AUDIO output	1W(monaural)
Scanning frequency			
H	15kHz / 31kHz~65kHz		
V	50~100Hz		
Video band	DC~60MHz(RGB)		
Horizontal resolution			
NTSC	600TV lines		
1080i	900TV lines		
Power requirement	120V AC, 60Hz		
Power consumption	1.6A		
Dimensions	18-3/4" × 16-1/8" × 20-7/8" inch		
(W × H × D)	476 × 407.5 × 529 mm		
Weight	69.6lbs (31.6kg)		
Environmental conditions	Operating temperature 0° ~40°C (32~104° F) Operating humidity 20~80%(non-condensing)		
Built-in speaker	3-1/8" (8cm) round type × 1 Impedance of 8 Ω		
Remote input/output	1 line, DIN 8-pin connector × 1 External input select control of 3 bits (Signal of 2 bits, ENABLE signal of 1 bit) Input status output of 2 bits		

Design and specification are subject to change without notice.

SAFETY PRECAUTIONS

- The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- Use isolation transformer when hot chassis.**
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
- Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (↘) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.
- If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
- When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

10. Isolation Check

(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check

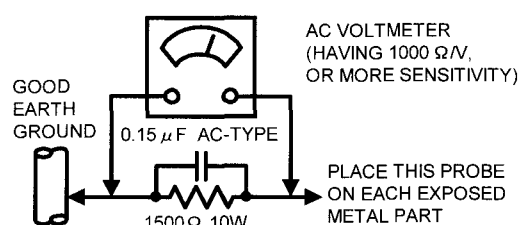
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

● Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



11. High voltage hold down circuit check.

After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.

See item "How to check the high voltage hold down circuit".

This mark shows a fast operating fuse, the letters indicated below show the rating.



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

[CAUTION]

- * Even with the power switch off, some parts of the set are live. Be sure to disconnect the power plug from the AC outlet before disassembly and reassembly.

REMOVING THE TOP COVER AND REAR PANEL

1. Removing the 14 screws marked **A**.
2. Slightly spread the bottom of the top cover. Shift the top cover backward and raise it upward to remove it.
3. Then remove the REAR PANEL too.

REMOVING THE SUPPORT BRACKET AND TERMINAL BRACKET

- After removing the TOP COVER and REAR PANEL.

1. Remove the 2 screws marked **B**, then pull out the SUPPORT BRACKET.
2. Remove the screw marked **C**, 8 screws marked **D**, 2 screw nuts marked **E** and 3 screws marked **F**, then remove the TERMINAL BRACKET.

REMOVING THE CHASSIS

- Removing the TOP COVER, REAR PANEL, SUPPORT BRACKET and TERMINAL BRACKET.

1. Remove the screw marked **G**.
2. While pulling the chassis remove it.
3. If necessary, take off the wire clamp, connectors, etc..

REMOVING THE SPEAKER

- Removing the top cover.

1. Remove the 2 screws marked **H**.
2. Lift the speaker holder, then remove it.
3. Push the claws slightly, and shift the speaker to downward, and remove it away.(Fig.2)

CHECKING THE PW BOARD

To check the back side of the PW board.

- (1) Remove out the chassis.
- (2) Erect the chassis vertically so that you can easily check the back side of the PW board.

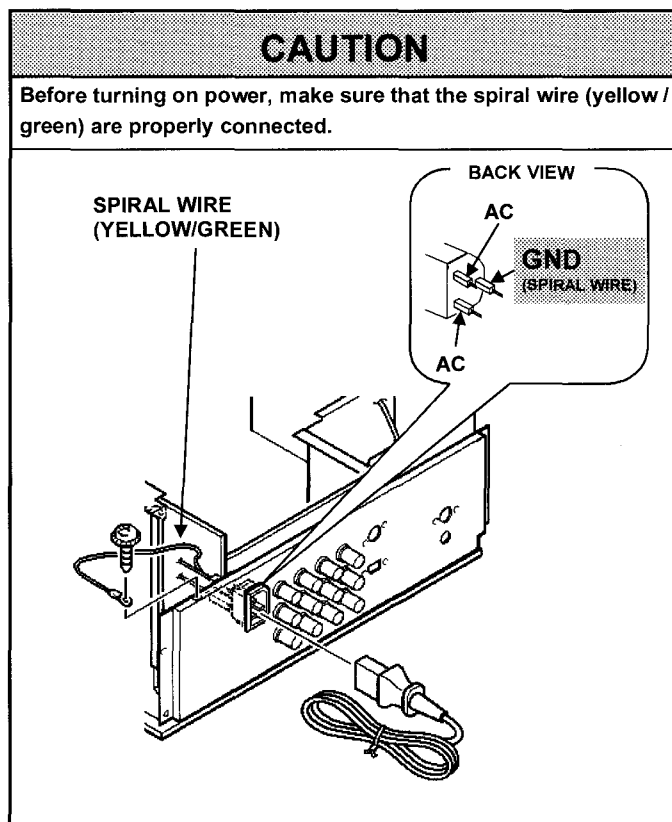
[CAUTION]

★ When erecting the chassis, be careful so that there will be no contacting with other PW board.

★ Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.



OPERATING INSTRUCTIONS

JVC[®]

DTV MONITOR

DT-V2000SU

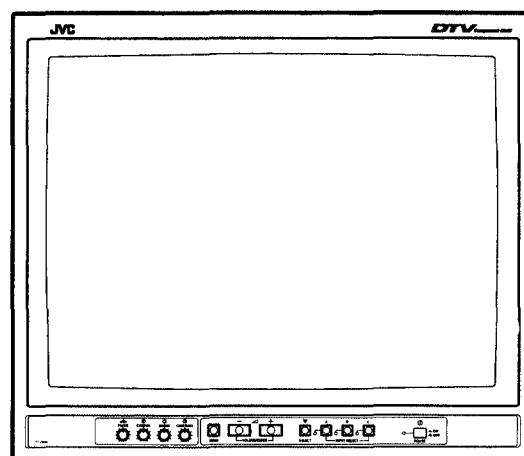
INSTRUCTIONS

For Customer Use:

Enter below the Serial No. which is located on the rear of the cabinet. Retain this information for future reference.

Model No. : DT-V2000SU

Serial No. : _____



Thank you for purchasing this JVC DTV monitor. Before using it, read and follow all instructions carefully to take full advantage of the monitor's capabilities.

SAFETY PRECAUTIONS

WARNING :

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS MONITOR TO RAIN OR MOISTURE.

CAUTION :

To reduce the risk of electric shock, do not remove cover. Refer servicing to qualified service personnel.

This monitor is equipped with a 3-blade grounding-type plug to satisfy FCC rule. If you are unable to insert the plug into the outlet, contact your electrician.

FCC INFORMATION

CAUTION: Changes or modification not approved by JVC could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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HOW TO PERFORM MAIN MENU ADJUSTMENTS	10
HOW TO PERFORM SET-UP MENU ADJUSTMENTS	16
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■ PRECAUTIONS

- Use only the power source specified on the unit. (120 V AC, 60 Hz)
- Keep flammable material, water, and metal objects away from the unit – especially the interior of the unit.
- This unit incorporates high voltage circuitry. For your own safety and that of your equipment, do not attempt to modify or disassemble this monitor. There are no user-serviceable parts inside.
- Unplug the monitor when you're not going to be using it for a long period.

■ HANDLING

- Avoid shocks or vibrations. These may damage the unit and cause it to malfunction.
- Do not block the ventilation slots.
- Do not expose this unit to high temperatures. Extended exposure to direct sunlight or a heater could deform the cabinet or cause the performance of internal components to deteriorate.
- Do not place the unit near appliances generating strong electric or magnetic fields. There can generate picture noise and instability.
- Keep the monitor clean by wiping the cabinet and CRT screen with a piece of soft cloth. Do not apply thinner or benzine. These chemicals can damage the finish and erase printed letters. When the unit is excessively dirty, use a diluted neutral cleanser, then wipe away the cleanser with a dry cloth.

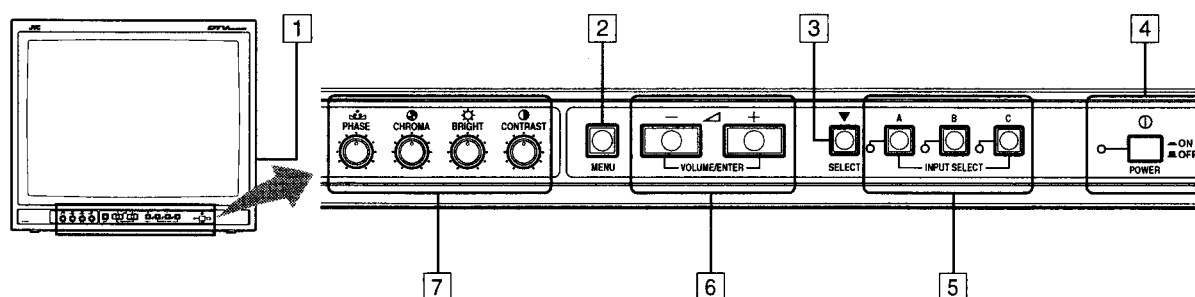
SCREEN BURN

- It is not recommended to keep a certain still image displayed on screen for a long time as well as displaying extremely bright images on screen. This may cause a burning (sticking) phenomenon on the screen of cathode-ray tube. This problem does not occur as far as displaying normal video playback motion images.

CONTROLS AND FEATURES

FRONT VIEW

<Front Panel>



1 Speaker

A built-in speaker is located in the right panel when the monitor is viewed from the front.

2 MENU button

Displays and turns off the menu screens.

Notes:

- There are two menu screens: the <MAIN MENU> screen and the <SET-UP MENU> screen.
- To display the <MAIN MENU> screen, press the MENU button.
- To display the <SET-UP MENU> screen, when no menu screen is displayed, press the VOLUME/ENTER (-) button while pressing the SELECT (▼) button.
- To select an item in a menu screen, press the SELECT (▼) button.
- To set or adjust a selected item in a menu screen, press the VOLUME/ENTER (-/+) buttons.

3 SELECT (▼) button

Selects an item in a menu screen. Each time the SELECT button is pressed, the selection mark moves to the next item below.

4 POWER switch/POWER indicator

Monitor power switch and power indicator. Press the POWER switch to turn the power ON or OFF.

* When the monitor is ON, there is a slight delay before the picture appears while the monitor runs a self-test.

5 INPUT SELECT buttons

Select the video signal input to each terminal.

■ Input A button [INPUT A (RGB/COMPO.)]

Selects the video signal input to the INPUT A (RGB/COMPO.) terminal. When selected, the INPUT A indicator lights in green.

■ Input B button [INPUT B (VIDEO)]

Selects the video signal input to the INPUT B (VIDEO) terminal. When selected, the INPUT B indicator lights in green.

■ Input C button [INPUT C (RGB)]

Selects the video signal input to the INPUT C (RGB) terminal. When selected, the INPUT C indicator lights in green.

6 VOLUME/ENTER (-/+) buttons

Adjust the speaker volume. Also used to set or adjust an item in a menu screen.

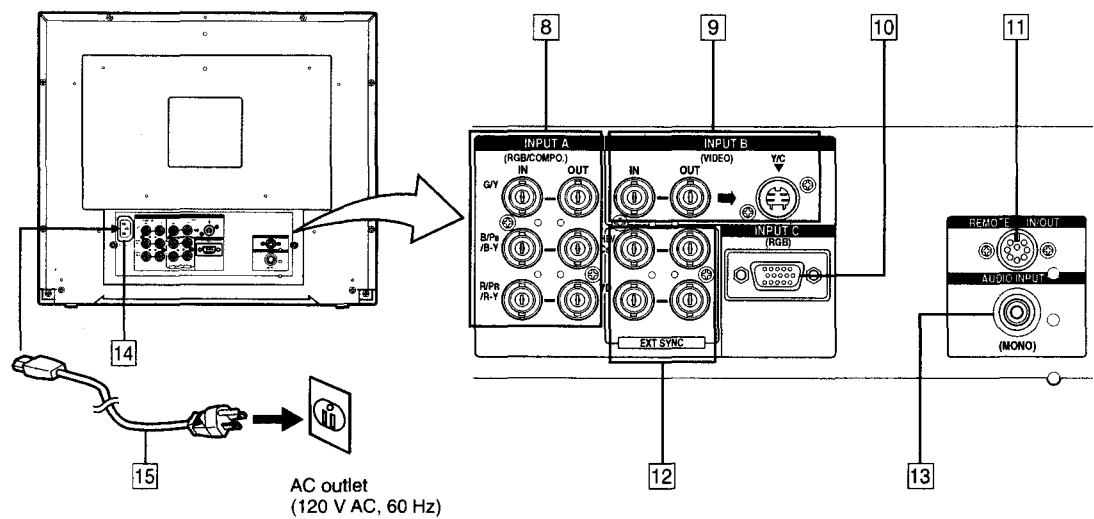
7 Picture adjustment knobs

Adjust the picture hue (PHASE), chroma (CHROMA), brightness (BRIGHT) and contrast (CONTRAST).

* For details, refer to page 9.

REAR VIEW

<Rear Panel>



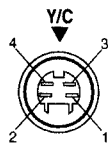
8 INPUT A (RGB/COMPO.) terminals

Input (IN) and output (OUT) terminals for Analog RGB, Y/R-Y/B-Y component signals. The output terminal is bridge-connected.
* For details about DTV-format signals (480i, 480p, 720p, 1080i) compatible with this unit, refer to page 23.

9 INPUT B (VIDEO) terminals

Video input (IN) and output (OUT) terminals and Y/C (S-Video) input (Y/C) terminal. The output terminal is bridge-connected.
* When both Input B terminals are connected at the same time, the Y/C terminal is given priority.
* There is no Y/C (S-Video) output terminal.

[Y/C terminal specifications]

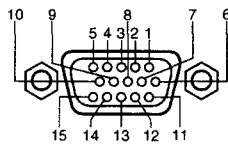


Pin No.	Signal
1	GND (Y)
2	GND (C)
3	Y
4	C

10 INPUT C (RGB) terminal

Input terminal (D-sub 3-row/15-pin connector) exclusively for computer RGB signals.

[INPUT C (RGB) terminal specifications]



Pin No.	Signal	Pin No.	Signal
1	VIDEO (RED)	9	NC
2	VIDEO (GREEN)	10	GND (SYNC)
3	VIDEO (BLUE)	11	NC
4	NC	12	NC
5	GND	13	H SYNC *1
6	GND (RED)	14	V SYNC *1
7	GND (GREEN)	15	NC
8	GND (BLUE)		

*1: Input impedance: low impedance (330 Ω)

CONTROLS AND FEATURES (cont'd.)

11 REMOTE IN/OUT terminal

External control input and output terminal. Instead of using the INPUT SELECT button, an external control signal changes the INPUT mode. INPUT mode status data is also output through this terminal.

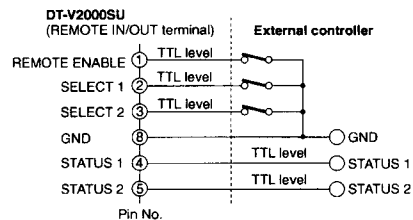
* The terminal is DIN 8-pin (female).

[REMOTE IN/OUT terminal specifications]

Pin No.	Signal
1	REMOTE ENABLE
2	SELECT 1
3	SELECT 2
4	STATUS 1
5	STATUS 2
6	NC
7	GND
8	GND

■ To test external control, short-circuit the REMOTE ENABLE terminal (Pin No. 1) to the GND terminal (Pin No. 8) so that the external remote control becomes valid (L level). Then, turn the SELECT 1 terminal (Pin No. 2) and the SELECT 2 terminal (Pin No. 3) ON to select the INPUT SELECT mode.

[Connection Image]



■ External Control Input in the Input Mode (INPUT SELECT)

Input mode (INPUT SELECT)	SELECT 2	SELECT 1
INPUT A	L	L
INPUT B	L	H
INPUT C	H	L

■ Output of Input Mode Status in the Input Mode (INPUT SELECT)

STATUS 2	STATUS 1	Input Mode (INPUT SELECT) Status Data Output
L	L	INPUT A
L	H	INPUT B
H	L	INPUT C

Notes:

- To test external control, short-circuit the REMOTE ENABLE terminal (Pin No. 1) to the GND terminal (Pin No. 8) so that the external remote control becomes valid (L level). External control doesn't function when external remote control is invalid (H level).
- The POWER SAVE function doesn't work when external remote control is valid.

12 EXT SYNC terminals (available only for INPUT A)

Input (IN) and output (OUT) terminals for horizontal synchronization (HD) or composite synchronization (Cs) signals, as well as vertical synchronization (VD) signals. The output terminal is bridge-connected.

* Available only for INPUT A.

* Synchronization signals are automatically detected. External synchronization is selected when HD/VD or Cs is input. The priority is as follows: HD/VD > Cs.

13 AUDIO INPUT terminal

Audio input terminal (RCA pin-jack).

* The audio input level is 500 mVrms. Sound becomes distorted when a signal greater than 1 Vrms is input.

14 AC Inlet [AC INPUT]

Power input connector. Connect the provided AC power cord [15].

15 Power cord

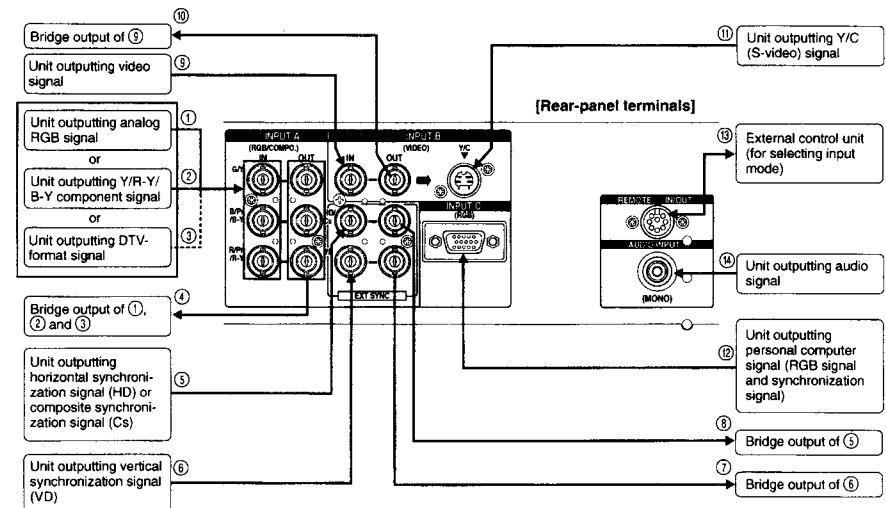
Provided power cord for connecting the AC inlet [AC INPUT] [14] to an AC outlet (120 V AC, 60 Hz).

CONNECTIONS

Notes:

- Before connecting your system, make sure that all units are turned off.
- The illustration below shows some examples of different connections. Terminal connections may differ depending on the component(s) connected. Be sure to refer to the instructions provided with the unit(s) you are connecting.

■ BASIC CONNECTION EXAMPLE



Caption Numbers	Signals	Terminals	Functions
①	Analog RGB signal	INPUT A (RGB/COMP.) IN	Analog RGB signal input
②	Y/R-Y/B-Y component signal	INPUT A (RGB/COMP.) IN	Y/R-Y/B-Y component signal input
③	DTV-format signal (480i, 480p, 720p, 1080i)	INPUT A (RGB/COMP.) IN	DTV-format signal (480i, 480p, 720p, 1080i) input
④	Analog RGB, Y/R-Y/B-Y component, DTV-format signal	INPUT A (RGB/COMP.) OUT	Bridge output of ①, ② or ③
⑤	Horizontal synchronization (HD)/ composite synchronization (Cs) signal	EXT SYNC (HD/Cs) IN	Horizontal synchronization (HD) or composite synchronization (Cs) signal input
⑥	Vertical synchronization (VD) signal	EXT SYNC (VD) IN	Vertical synchronization (VD) signal input
⑦	Vertical synchronization (VD) signal	EXT SYNC (VD) OUT	Bridge output of ⑥
⑧	Horizontal synchronization (HD)/ composite synchronization (Cs) signal	EXT SYNC (HD/Cs) OUT	Bridge output of ⑤
⑨	Video signal	INPUT B (VIDEO) IN	Video signal input
⑩	Video signal	INPUT B (VIDEO) OUT	Bridge output of ⑨
⑪	Y/C signal	INPUT B (VIDEO) Y/C IN	Y/C (S-video) signal input
⑫	Personal computer signal (RGB signal and synchronization signal)	INPUT C (RGB) IN	Personal computer signal (RGB signal and synchronization signal) input
⑬	External control signal (input mode selection/ status data output)	REMOTE IN/OUT	Input mode selection (input) and status data output
⑭	Audio signal	AUDIO INPUT	Audio signal input

* Refer to page 23 for specifications of DTV-format signals (480i, 480p, 720p, 1080i) that can be input.

HOW TO HANDLE BASIC OPERATIONS

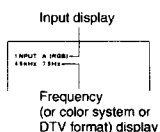
BASIC OPERATION

1. Press the POWER switch to turn on the power.

ON () : Power turns ON. (Power indicator lights in green.)

OFF () : Power turns OFF. (Power indicator goes out.)

* The frequency of the input signals (or the color system or DTV format) is automatically identified and displayed for about three seconds.



2. Press the INPUT SELECT

buttons to choose the input.

A : INPUT A input mode
(INPUT A indicator lights in green.)

B : INPUT B input mode
(INPUT B indicator lights in green.)

C : INPUT C input mode
(INPUT C indicator lights in green.)

* When the input mode is changed or the power is turned on, the selected input and frequency (or color system or DTV format) are automatically identified and displayed for about three seconds.

3. Press the VOLUME/ENTER

buttons to adjust the speaker volume.

+ : The built-in speaker volume is increased. (00 → 50)

- : The built-in speaker volume is decreased. (50 → 00)

* The screen indication disappears after about three seconds.



Selected Input Display (Mode)

Display	Input
INPUT A (RGB)	RGB input
INPUT A (COMPO.)	COMPONENT input
INPUT B (VIDEO)	VIDEO input
INPUT B (Y/C)	Y/C input
INPUT C	RGB (PC) input

Input Signal Frequency/Color System/DTV Format Display

Display	Input signal
NTSC	NTSC, B/W *1
1080i	HDTV format for DTV
720p	HDTV format for DTV
480p	SDTV format for DTV
480i	SDTV format for DTV
NO SYNC	No identifiable signal
00 kHz 00 Hz	RGB signal at a non-preset frequency (Current frequency is displayed)
Out of range	Signal outside the frequency range

*1: For B/W signal, $f_H = 15.75 \text{ kHz}$, $f_V = 60 \text{ Hz}$.

Input mode and frequency (or color system or DTV format) display

- The size of the letters in the on-screen indication is automatically adjusted. However, the size of letters at the same frequency may change due to processing dispersion.
- The "00 kHz 00 Hz" indication shown in the table above appears when the frequency is automatically identified. The horizontal frequency (kHz) and the vertical frequency (Hz) are displayed with decimal fractions omitted.
- The indicated frequency may differ from the actual frequency due to processing dispersion.
- Refer to page 14 "DISPLAY OF PRESENT INPUT STATUS" for details about the input mode and frequency (or color system or DTV format) screen.

When the POWER SAVE function is valid (ON)

- When INPUT C is selected, whenever the horizontal and vertical synchronization signals are no longer detected, the screen goes out and the POWER indicator blinks (only when the connected computer has a power management function conforming to VESA). For details about the POWER SAVE function, see page 16.

Notes:

- The monitor's audio input level is 500 mVrms. Sound becomes distorted when a signal greater than 1 Vrms is input.
- When a DTV-format signal is displayed, noise may appear at the bottom of the screen or a signal unrelated to the picture may appear at the top or bottom. This is not a malfunction.

OPERATION OF PICTURE ADJUSTMENT KNOBS

PHASE knob

Adjusts picture hue.



CHROMA knob

Adjusts picture chroma.



BRIGHT knob

Adjusts picture brightness.



CONTRAST knob

Adjusts picture contrast.



Notes:

- The standard position of each knob is the center point where the knob clicks into place. The standard position is also indicated in the <PICTURE ADJ.> menu.
- Adjusting the PHASE knob and CHROMA knob may have no effect depending on the input signal (input mode). (O : valid - : invalid)

Picture adjustment	INPUT SELECT switch			
	A	B	C	
	RGB	COMPO.	VIDEO	RGB
PHASE	-	O	O	-
CHROMA	-	O	O	-
BRIGHT	O	O	O	O
CONTRAST	O	O	O	O

DISPLAY OF MENU SCREENS

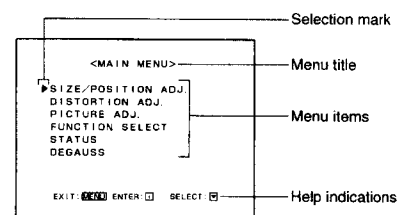
There are two menu screens; the <MAIN MENU> screen and the <SET-UP MENU> screen.

- To display the <MAIN MENU> screen, press the MENU button.
- To display the <SET-UP MENU> screen, when no menu screen is displayed, press the VOLUME/ENTER button while pressing the SELECT button.
- When a menu screen is displayed, press the menu operation buttons () / () / () shown in the help indications to select, set, adjust or cancel menu items.

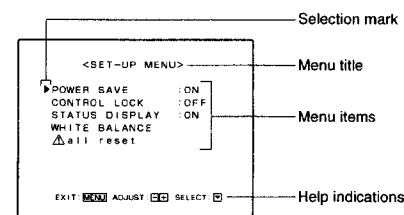
Notes:

- For details about operating each menu item, refer to pages 10 to 19.
- Items that cannot be set or adjusted in the current input mode (INPUT SELECT) are not displayed.
- The menu screen automatically disappears when no operation is performed after about 30 seconds.
- When a prompt appears in the menu screen, it does not disappear until the operation requested is performed.

<MAIN MENU> Screen Example



<SET-UP MENU> Screen Example



HOW TO PERFORM MAIN MENU ADJUSTMENTS

ADJUSTMENT OF SCREEN SIZE AND SCREEN POSITION

You can adjust the screen size and screen position.

This function can be set when an INPUT A component (COMPO.) signal or INPUT B (VIDEO) signal is input with the underscan size (UNDER) selected or when an INPUT A RGB signal or INPUT C PC (RGB) signal is input.

1 Press the MENU button.

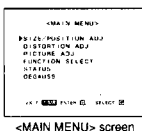
The <MAIN MENU> screen appears.



<MAIN MENU> screen

2 Press the SELECT button to select the [SIZE/POSITION ADJ.] item.

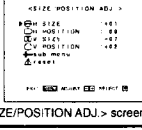
The selection mark (▶) moves to the [SIZE/POSITION ADJ.] item.



<MAIN MENU> screen

3 Press the VOLUME/ENTER button.

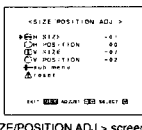
The <SIZE/POSITION ADJ.> screen appears.



<SIZE/POSITION ADJ.> screen

4 Press the SELECT button to select the desired adjustment item.

The selection mark (▶) moves to the selected adjustment item.



<SIZE/POSITION ADJ.> screen

5 Perform adjustment with the VOLUME/ENTER buttons.

* Adjustable range: -80 — +80 *

Items	VOLUME/ENTER buttons	Contents
H SIZE (H)	[Left] [Right]	Reduces the screen size horizontally (-80 — +80) * Expands the screen size horizontally (-80 — +80) *
H POSITION (H)	[Left] [Right]	Shifts the screen to the left (-80 — +80) Shifts the screen to the right (-80 — +80)
V SIZE (V)	[Left] [Right]	Reduces the screen size vertically (-80 — +80) Expands the screen size vertically (-80 — +80)
V POSITION (V)	[Left] [Right]	Shifts the screen down (-80 — +80) Shifts the screen up (-80 — +80)

*1: When INPUT A component (COMPO.) or INPUT B (VIDEO) is selected as the input mode and the [FUNCTION SELECT] item SCAN SIZE is set to "underscan (UNDER)", the H SIZE adjustable range is 00 — +80.

- H SIZE: adjusts the horizontal screen size
- H POSITION: adjusts the horizontal screen position
- V SIZE: adjusts the vertical screen size
- V POSITION: adjusts the vertical screen position

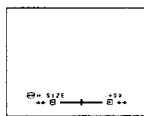
■ SELECTING [←sub menu] IN PROCEDURE 4

You can also adjust items in procedure 5 with only the selected item displayed. Use this if the full menu screen makes it difficult to observe the monitor image.

① Select the [←sub menu] item in procedure 4.

② Press the VOLUME/ENTER button.

The <sub menu> screen appears.
(A single item is displayed at a time.)



<sub menu> screen

③ Press the SELECT button to select the desired item.

④ Perform adjustment with the VOLUME/ENTER buttons.

■ RESETTING ITEMS TO THEIR FACTORY-SET (INITIAL) VALUES

You can reset <SIZE/POSITION ADJ.> items to their factory-set (initial) values.

① Select the [Δ reset] item in procedure 4.

② Press the VOLUME/ENTER button.

The <reset> screen appears.



<reset> screen

③ Perform adjustment with the VOLUME/ENTER button or the MENU button.

VOLUME/ENTER button... Values are reset.
MENU button... Reset is aborted (values are unchanged).

* The screen from procedure 4 reappears.

6 After adjustment is complete, press the MENU button twice to exit the menu screen.

Notes:

- The [SIZE/POSITION ADJ.] item may not be displayed depending on which input mode (INPUT SELECT) is selected. In this case, adjusting the screen size and screen position may be impossible.
- The menu screen automatically disappears when no operation is performed after about 30 seconds.
- When a prompt appears in the menu screen, it does not disappear until the operation requested is performed.
- Up to 12 different RGB signals input to INPUT A or INPUT C are automatically stored in memory (User Memory). When the 13th signal is input, the signal first stored in memory is replaced with the new one.
(Refer to "User Memory for RGB Input" on page 14.)

PICTURE DISTORTION ADJUSTMENT

You can adjust the picture distortion.

This function can be set when an INPUT A component (COMPO.) signal or INPUT B (VIDEO) signal is input with the underscan size (UNDER) selected or when an INPUT A RGB signal or INPUT C PC (RGB) signal is input.

1 Press the MENU button.

The <MAIN MENU> screen appears.



<MAIN MENU> screen

2 Press the SELECT button to select the [DISTORTION ADJ.] item.

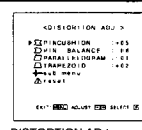
The selection mark (▶) moves to the [DISTORTION ADJ.] item.



<MAIN MENU> screen

3 Press the VOLUME/ENTER button.

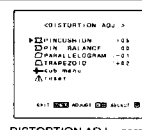
The <DISTORTION ADJ.> screen appears.



<DISTORTION ADJ.> screen

4 Press the SELECT button to select the desired adjustment item.

The selection mark (▶) moves to the adjustment item.



<DISTORTION ADJ.> screen

5 Perform adjustment with the VOLUME/ENTER buttons.

* Adjustable range: -60 — +60

Items	VOLUME/ENTER buttons	Contents
PINCUSHION (Σ)	[Left] [Right]	Indents both horizontal sides of the picture (-60 — +60) Swells both horizontal sides of the picture (-60 — +60)
PIN. BALANCE (Σ)	[Left] [Right]	Indents the right side of the picture and swells the left side of the picture (-60 — +60) Indents the left side of the picture and swells the right side of the picture (-60 — +60)
PARALLELOGRAM (□)	[Left] [Right]	Moves the upper side of the picture to the left and the lower side of the picture to the right (-60 — +60) Moves the upper side of the picture to the right and the lower side of the picture to the left (-60 — +60)
TRAPEZOID (Δ)	[Left] [Right]	Shortens the upper side of the picture (-60 — +60) Expands the upper side of the picture (-60 — +60)

- PINCUSHION: adjusts the pincushion distortion
- PIN. BALANCE: adjusts the balance of the pincushion distortion
- PARALLELOGRAM: adjusts the parallelogram distortion
- TRAPEZOID: adjusts the trapezoid distortion

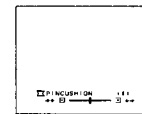
■ SELECTING [←sub menu] IN PROCEDURE 4

You can also adjust items in procedure 5 with only the selected item displayed. Use this if the full menu screen makes it difficult to observe the monitor image.

① Select the [←sub menu] item in procedure 4.

② Press the VOLUME/ENTER button.

The <sub menu> screen appears.
(A single item is displayed at a time.)



<sub menu> screen

③ Press the SELECT button to select the desired item.

④ Perform adjustment with the VOLUME/ENTER buttons.

■ RESETTING ITEMS TO THEIR FACTORY-SET (INITIAL) VALUES

You can reset the <DISTORTION ADJ.> items to their factory-set (initial) values.

① Select the [Δ reset] item in procedure 4.

② Press the VOLUME/ENTER button.

The <reset> screen appears.



<reset> screen

③ Perform adjustment with the VOLUME/ENTER button or the MENU button.

VOLUME/ENTER button... Values are reset.
MENU button... Reset is aborted (values are unchanged).

* The screen from procedure 4 reappears.

6 After adjustment is complete, press the MENU button twice to exit the menu screen.

Notes:

- The [DISTORTION ADJ.] item may not be displayed depending on which input mode (INPUT SELECT) is selected. In this case, adjusting the picture distortion may be impossible.
- The menu screen automatically disappears when no operation is performed after about 30 seconds.
- When a prompt appears in the menu screen, it does not disappear until the operation requested is performed.
- Up to 12 different RGB signals input to INPUT A or INPUT C are automatically stored in memory (User Memory). When the 13th signal is input, the signal first stored in memory is replaced with the new one.
(Refer to "User Memory for RGB Input" on page 14.)

HOW TO PERFORM MAIN MENU ADJUSTMENTS (cont'd.)

PICTURE ADJUSTMENT

You can adjust the picture contrast, brightness, etc.

1 Press the MENU button.

The <MAIN MENU> screen appears.



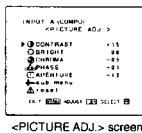
2 Press the SELECT button to select the [PICTURE ADJ.] item.

The selection mark (▶) moves to the [PICTURE ADJ.] item.



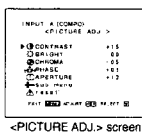
3 Press the VOLUME/ENTER button.

The <PICTURE ADJ.> screen appears.



4 Press the SELECT button to select the desired adjustment item.

The selection mark (▶) moves to the adjustment item.



5 Perform adjustment with the VOLUME/ENTER buttons.

* Items not displayed because of the selected input mode (INPUT SELECT) cannot be adjusted.
* Adjustable range: -20 → +20

Items	VOLUME/ENTER buttons	Contents
CONTRAST (C)		Contrast becomes lower (-20 → +20)
		Contrast becomes higher (-20 → +20)
BRIGHT (B)		Brightness becomes darker (-20 → +20)
		Brightness becomes brighter (-20 → +20)
CHROMA (C)		Chroma becomes lighter (-20 → +20)
		Chroma becomes deeper (-20 → +20)
PHASE (P)		Phase becomes more reddish (-20 → +20)
		Phase becomes more greenish (-20 → +20)
APERTURE (A)		Outline becomes more obscure (-20 → +20)
		Outline becomes clearer (-20 → +20)

* CONTRAST: adjusts the picture contrast
* BRIGHT: adjusts the picture brightness
* CHROMA: adjusts the picture chroma
* PHASE: adjusts the picture phase
* APERTURE: adjusts the picture aperture (outline)

■ SELECTING [+sub menu] IN PROCEDURE 4

You can also adjust items in procedure 5 with only the selected item displayed. Use this if the full menu screen makes it difficult to observe the monitor image.

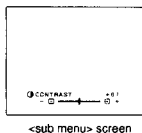
① Select the [+sub menu] item in procedure 4.

② Press the VOLUME/ENTER button.

The <sub menu> screen appears.
(A single item is displayed at a time.)

③ Press the SELECT button to select the desired item.

④ Perform adjustment with the VOLUME/ENTER buttons.



■ RESETTING ITEMS TO THEIR FACTORY-SET (INITIAL) VALUES

You can reset the <PICTURE ADJ.> items to their factory-set (initial) values.

① Select the [Δ reset] item in procedure 4.

② Press the VOLUME/ENTER button.

The <reset> screen appears.

③ Perform adjustment with the VOLUME/ENTER button or the MENU button.

VOLUME/ENTER button... Values are reset.
MENU button... Reset is aborted
(values are unchanged).



* The screen from procedure 4 reappears.

6 After adjustment is complete, press the MENU button twice to exit the menu screen.

Notes:

- The menu screen automatically disappears when no operation is performed after about 30 seconds.
- When adjusting the picture, set each picture adjustment knob on the front panel to the center position (the knob clicks into place).
- It is possible to memorize the preset picture adjustment for each video input (up to 3 inputs).
- Items not displayed because of the selected input mode (INPUT SELECT) cannot be adjusted. In this case, it is also impossible to perform adjustment with picture adjustment knobs. (○: adjustable —: not adjustable)

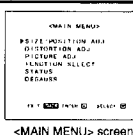
Picture adjustment	INPUT SELECT Button			
	INPUT A	INPUT B	INPUT C	
	RGB	COMPO.	VIDEO	RGB (PC)
CONTRAST	○	○	○	○
BRIGHT	○	○	○	○
CHROMA	—	○	○	—
PHASE	—	○	○	—
APERTURE	—	○	○	—

FUNCTION SELECTION (SETTING)

You can select (set) the display's functions.

1 Press the MENU button.

The <MAIN MENU> screen appears.



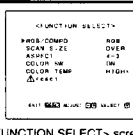
2 Press the SELECT button to select the [FUNCTION SELECT] item.

The selection mark (▶) moves to the [FUNCTION SELECT] item.



3 Press the VOLUME/ENTER button.

The <FUNCTION SELECT> screen appears.



4 Press the SELECT button to select the desired adjustment item.

The selection mark (▶) moves to the adjustment item.



5 Perform adjustment with the VOLUME/ENTER buttons.

* Items not displayed because of the selected input mode (INPUT SELECT) cannot be adjusted.

Items	Contents
RGB/COMPO.	Sets the input signal of the INPUT A terminal to receive RGB or component (COMPO.) signals. (RGB → COMPO.) RGB : RGB signal is selected. COMPO. : component signal is selected.
SCAN SIZE	Sets the scan size when component (COMPO.) signals are input to the INPUT A terminal. (OVER → UNDER) OVER : standard scan size (95% overscan) is selected. UNDER : underscan size is selected.
ASPECT	Sets the aspect ratio for INPUT B signals and INPUT A component (480i, 480p) signals. (4:3 → 16:9) 4:3 : sets the aspect ratio to 4:3. (Standard for INPUT B signals.) 16:9 : sets the aspect ratio to 16:9. (Standard for INPUT A component (480i, 480p) signals.)
COLOR SW	Sets the color switch of the INPUT B signal input and the INPUT A component (COMPO.) signal input. (ON → OFF) ON : usually keep COLOR SW set to ON (the picture is colored). OFF : the colored picture becomes black and white.
COLOR TEMP.	Sets the color temperature to HIGH or LOW (HIGH → LOW). HIGH : sets the color temperature to HIGH. LOW : sets the color temperature to LOW.

- RGB/COMPO. : sets the input signal of the INPUT A terminal
- SCAN SIZE : sets the scan size
- ASPECT : sets the aspect ratio
- COLOR SW : sets the color switch
- COLOR TEMP. : sets the color temperature

■ RESETTING ITEMS TO THEIR FACTORY-SET (INITIAL) VALUES

You can reset each item (RGB/COMPO., SCAN SIZE, ASPECT, COLOR SW and COLOR TEMP.) in the <FUNCTION SELECT> menu to their factory-set (initial) values.

① Select the [Δ reset] item in procedure 4.

② Press the VOLUME/ENTER button.

The <reset> screen appears.

③ Perform adjustment with the VOLUME/ENTER button or the MENU button.

VOLUME/ENTER button... Values are reset.
MENU button... Reset is aborted
(values are unchanged).



* The screen from procedure 4 reappears.

6 After adjustment is complete, press the MENU button twice to exit the menu screen.

Notes:

- The menu screen automatically disappears when no operation is performed after about 30 seconds.
- When a prompt appears in the menu screen, it does not disappear until the operation requested is performed.
- Before setting functions, make sure that signals are being input to the monitor.
- Items that cannot be set or adjusted because of the selected input mode (INPUT SELECT) are not displayed.
- When setting the [RGB/COMPO.] item, procedure 6 is not needed. After being set, the picture temporarily disappears, then the function selection is complete.
- The [SCAN SIZE] item can be set only when INPUT B (NTSC composite or Y/C) signals or INPUT A component signals are input.
- The [ASPECT] item can be set only when INPUT B signals or INPUT A component signals (480i, 480p) are input. With INPUT B signals, 4:3 (4-3) is the standard. With INPUT A (COMPO.) signals, 16:9 (16-9) is the standard.
- The [COLOR SW] item can be set only when INPUT B signals or INPUT A component signals are input.
- When the " " mark appears after the [COLOR TEMP.] setting is changed (HIGH or LOW), it means that the [WHITE BALANCE] item in the <SET-UP MENU> screen has been adjusted. [WHITE BALANCE] is different for [HIGH] and [LOW].

HOW TO PERFORM MAIN MENU ADJUSTMENTS (cont'd.)

DISPLAY OF PRESENT INPUT STATUS

You can see the present status of the input mode and frequency (or color system or DTV format). The status display disappears after three seconds.

This function is available with all input signals.

1 Press the MENU button.

The <MAIN MENU> screen appears.



2 Press the SELECT button to select the [STATUS] item.

The selection mark (▶) moves to the [STATUS] item.



3 Press the VOLUME/ENTER button.

The <STATUS> screen appears.

The present input mode and frequency (or color system or DTV format) appears.

INPUT A (RGB) — Input mode
49 kHz 75 Hz — Frequency (or color system or DTV format)



* The <STATUS> screen indication automatically disappears after about three seconds.

Notes:

- When the input signal cannot be detected, the message "NO SYNC" is displayed.
- The present frequency (or color system or DTV format) is detected and displayed. The horizontal (kHz) and vertical (Hz) frequencies are displayed with decimal fractions omitted.
- The frequency displayed may differ from the actual frequency due to processing dispersion.

Connection Between Input Mode Display and Frequency (or Color System or DTV Format) Display

Input Mode	Input Signal	Frequency, Color System or DTV Format Signal	Input Mode Display	Frequency, Color System or DTV Format Display
INPUT A	RGB	Signal within the frequency range	INPUT A (RGB)	00kHz 00Hz
		Signal without synchronization		NO SYNC
		Signal outside the frequency range		Out of range
	COMPONENT	480i (15 kHz 60 Hz)	INPUT A (COMP.)	480i
		480p (31 kHz 60 Hz)		480p
		1080i (33 kHz 60 Hz)		1080i
		720p (45 kHz 60 Hz)		720p
		Other signal		720p
		Signal without synchronization		NO SYNC
		Signal outside the frequency range		Out of range
INPUT B	VIDEO	NTSC	INPUT B (VIDEO)	NTSC
		Signal without synchronization		NO SYNC
		Signal outside the frequency range (except for NTSC)		Out of range
	Y/C	NTSC	INPUT B (Y/C)	NTSC
		Signal without synchronization		NO SYNC
		Signal outside the frequency range (except for NTSC)		Out of range
INPUT C	RGB (PC)	Signal within the frequency range	INPUT C	00kHz 00Hz
		Signal without synchronization		NO SYNC
		Signal outside the frequency range		Out of range

- [00kHz 00Hz] shown in the table displays the present frequency detected.
- The horizontal (kHz) and vertical (Hz) frequencies are displayed with decimal fractions omitted.
- The frequency displayed may differ from the actual frequency due to processing dispersion.

User Memory for RGB Input

- The RGB signals input to INPUT A or INPUT C may require some adjustments, depending on the signal's characteristics. If necessary, perform the required adjustments referring to "How to Perform Main Menu Adjustments" on pages 10 – 11. The adjusted contents are automatically stored in memory (User Memory). When a signal corresponding to one stored in the User Memory is input, the stored adjustment contents are recalled. This unit stores the adjusted contents of up to 12 different signals in memory. When the 13th signal is input, the signal first stored in memory is replaced (overwritten) by the new one. (The contents stored first are replaced first.)

Recommended Input Mode List

Mode	Resolution		Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Preset
	Horizontal	Vertical			
NTSC	786	243	15.73	29.97 (i)	●
480i	720	244	15.73	29.97 (i)	●
480p	720	483	31.469	59.94	●
720p	1280	720	44.955	59.94	●
1080i	1920	540	33.75	30.00 (i)	●
VGA480	640	480	31.47	59.94	○
VESA600A (S-VGA)	800	600	35.16	56.26	○
MAC16	832	624	49.41	74.52	○
VESA768B (S-VGA)	1024	768	56.47	70.06	○
VGA350	640	350	31.47	70.08	○
VGA400	640	400	31.47	70.08	○
S-VGA	800	600	48.08	72.19	○
8514A	1024	384	35.52	43.48 (i)	○
VESA400	640	400	37.88	83.43	○
VESA480	640	480	37.88	72.84	○
VESA600B	800	600	37.88	60.32	○
VESA600C	800	600	48.08	72.19	○
VESA768A	1024	768	48.38	60.02	○
MAC2 (MAC13)	640	480	35.00	66.67	○
S-MAC (MAC19)	1024	768	48.78	59.56	○

- The "●" symbol indicates factory-set modes.
- The "○" symbol indicates recommended timing modes.
- The "(i)" symbol indicates interlacing.
- Macintosh™ and Power Macintosh™ are registered trademarks owned by Apple Computer Inc. (America).
- IBM® and VGA are registered trademarks owned by International Business Corporation (America).
- VESA® is a registered trademark owned by Video Electronics Standard Association.
- Windows® is a registered trademark owned by Microsoft Corporation in America and other countries.
- All other product names are the brands or the registered trademarks of their respective holders.

Notes:

- The input modes shown in the table above are recommended.
- When using signals that do not conform to any factory-set signal mode, you should adjust the width or position of the picture horizontally or vertically as required. For details about adjustment, refer to pages 10 and 11, "HOW TO PERFORM MAIN MENU ADJUSTMENTS."

DEGAUSSING THE SCREEN

If the monitor is placed too close to a speaker or other device incorporating a magnet, or if it is moved with the power on, irregular color may appear on the screen. If this happens, activate the degaussing circuit to degauss the picture. This circuit will remove the irregular color from the screen.

1 Press the MENU button.

The <MAIN MENU> screen appears.



2 Press the SELECT button to select the [DEGAUSS] item.

The selection mark (▶) moves to the [DEGAUSS] item.



3 Press the VOLUME/ENTER button.

The degaussing circuit is activated and the <DEGAUSS> screen appears.



* The <DEGAUSS> screen indication automatically disappears after about three seconds, and degaussing is complete after about 10 seconds.

Notes:

- When the power of the monitor is turned on, the degaussing circuit is automatically activated.
- Do not place a floppy disk or credit card close to the monitor. The magnetic field generated by the monitor may erase its contents.
- When degaussing the screen by manually activating the degaussing circuit, wait more than 30 minutes to gain the best effect. (The shorter the interval is, the less effective degaussing is.)

HOW TO PERFORM SET-UP MENU ADJUSTMENTS

POWER SAVE FUNCTION SETTING

This monitor has a power save function. For example, if the power is turned on with no signal input or the signal input is no longer detected, the power save function puts the monitor into signal-waiting mode (the screen goes out).

The power save function is set in the <SET-UP MENU> screen.

The power save function is available only with INPUT C signals and only when the monitor is connected to a computer which has a power management function that conforms to the VESA standard.

1 While pressing the

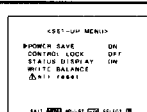
SELECT button, press the **VOLUME/ENTER** button.

The <SET-UP MENU> screen appears.



2 Press the SELECT button to select the [POWER SAVE] item.

The selection mark (▶) moves to the [POWER SAVE] item.



3 Perform adjustment with the VOLUME/ENTER buttons.

ON : The power save function is turned on.
OFF : The power save function is turned off.

4 After adjustment is complete, press the MENU button to exit the menu screen.

Notes:

- The power save function is available only with INPUT C signals and only when the monitor is connected to a computer which has a power management function that conforms to the VESA standard.
- The power save function cannot be set when the [POWER SAVE] item is not displayed, such as when the selected input mode (INPUT SELECT) is INPUT A or INPUT B.
- Items that cannot be set or adjusted in the current input mode (INPUT SELECT) are not displayed.
- When external remote control is activated, the power save function is turned off.
- The power save function factory-set value is "ON."

POWER SAVE FUNCTION

How the Power Save Function Operates

• Horizontal synchronization signal vanishes.

The "NO SYNC" indication is displayed and about 10 seconds later the "POWER SAVE" indication is displayed (for about 15 seconds).

The monitor enters standby mode.

(When the horizontal synchronization signal is detected again, the monitor resumes normal operation (the picture reappears).)

• Horizontal/vertical synchronization signals vanish.

The "NO SYNC" indication is displayed and 10 seconds later the "POWER SAVE" indication is displayed (for about 15 seconds).

The monitor enters suspended mode.

(When the horizontal/vertical synchronization signals are detected again, the monitor resumes normal operation (the picture is displayed) after about 10–15 seconds.)

The following shows the power indicator lighting and power consumption savings when the power save function is used.

Power Save Function			
Mode	Normal Mode	Standby Mode	Suspended Mode
Power Consumption	100%	Less than about 90%	Less than about 30%
Power Indicator (ⓘ)	Lit	Lit	Blinks
Shift Time from Normal Mode	—	About 15 seconds	About 15 seconds
Return Time to Normal Mode	—	Immediate	About 10 to 15 seconds

Note:

To exit from the power save mode, perform one of the following. (Note: if the operating conditions are the same as what they were in the power save mode, the power save mode will be reactivated after about 30 seconds.)

- Input signals (vertical/horizontal synchronization signals) from the computer to the monitor correctly,
- Cancel the power save mode by operating the computer,
- Operate the control buttons on the front of the monitor,
- Disconnect the power cord from the AC outlet and reconnect it.

CONTROL LOCK OF BUTTONS AND KNOBS

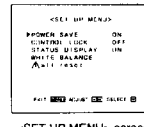
You can set the CONTROL LOCK function to disable control buttons and knobs on the front panel, except for the power switch.

This function is set in the <SET-UP MENU> screen.

1 While pressing the

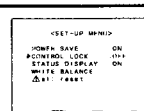
SELECT button, press the **VOLUME/ENTER** button.

The <SET-UP MENU> screen appears.



2 Press the SELECT button to select the [CONTROL LOCK] item.

The selection mark (▶) moves to the [CONTROL LOCK] item.



* When the <SET-UP MENU> screen is displayed with the CONTROL LOCK function turned on, the selection mark (▶) appears where the [CONTROL LOCK] item is displayed. In this case, the selection mark (▶) cannot be moved to other items.

3 Perform adjustment with the VOLUME/ENTER buttons.

ON : Control of front panel functions is turned off.
OFF : Control of front panel functions is turned on.

4 After adjustment is complete, press the MENU button to exit the menu screen.

* The screen automatically disappears after about 30 seconds if the MENU button is not pressed to exit the menu screen.

Notes:

- When the CONTROL LOCK function is turned on, if control knobs or buttons on the front panel (except for the power switch) are operated, "Control lock on!" is displayed for about three seconds.
- When the <SET-UP MENU> screen is displayed with the CONTROL LOCK function turned on, the selection mark (▶) appears where the [CONTROL LOCK] item is displayed. In this case, the selection mark (▶) cannot be moved to other items.
- When the CONTROL LOCK function is turned on, other menu screens cannot be displayed. (The CONTROL LOCK function is effective from the moment it is switched "ON.")
- Items that cannot be set or adjusted in the current input mode (INPUT SELECT) are not displayed.

SETTING DISPLAY OF PRESENT INPUT STATUS WHEN INPUT IS TURNED ON/OFF

This function (STATUS DISPLAY) is set in the <SET-UP MENU> screen.

1 While pressing the

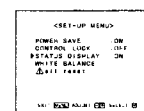
SELECT button, press the **VOLUME/ENTER** button.

The <SET-UP MENU> screen appears.



2 Press the SELECT button to select the [STATUS DISPLAY] item.

The selection mark (▶) moves to the [STATUS DISPLAY] item.



3 Perform adjustment with the VOLUME/ENTER buttons.

ON : The present input status is displayed when the input is changed.
OFF : The present input status is not displayed when the input is changed.

4 After adjustment is complete, press the MENU button to exit the menu screen.

* The screen automatically disappears after about 30 seconds if the MENU button is not pressed to exit the menu screen.

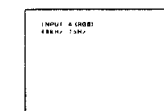
Notes

Items that cannot be set or adjusted in the current input mode (INPUT SELECT) are not displayed.

<STATUS DISPLAY> Screen

- Press the **INPUT SELECT** buttons to select the input. The present input status is displayed on the <STATUS DISPLAY> screen.

(Example)
INPUT A (RGB) — Input mode
49 kHz 75 Hz — Frequency (or color system or DTV format)



* The screen indication automatically disappears after about three seconds.

Note:

The displayed contents are the same as in "DISPLAY OF PRESENT INPUT STATUS" on page 14. Refer to that section for more details. Also, refer to "Notes" and "Connection Between Input Mode Display and Frequency (or Color System or DTV Format) Display" on page 14.

HOW TO PERFORM SET-UP MENU ADJUSTMENTS (cont'd.)

WHITE BALANCE ADJUSTMENT

You can set (adjust) the white balance of the screen. This function (WHITE BALANCE) is set in the <SET-UP MENU> screen.

- While pressing the **SELECT** button, press the **VOLUME/ENTER** button.

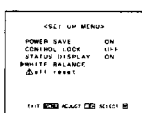
The <SET-UP MENU> screen appears.



<SET-UP MENU> screen

- Press the **SELECT** button to select the [WHITE BALANCE] item.

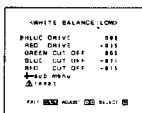
The selection mark (▶) moves to the [WHITE BALANCE] item.



<SET-UP MENU> screen

- Press the **VOLUME/ENTER** button.

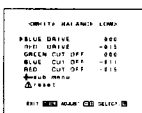
- The present color temperature status is displayed to the right of <WHITE BALANCE>: HIGH or LOW.
- The present color temperature status is the same as in the [COLOR TEMP.] item on the <FUNCTION SELECT> screen available from the <MAIN MENU> screen.



<WHITE BALANCE> screen

- Press the **SELECT** button to select the desired adjustment item.

The selection mark (▶) moves to the adjustment item.



<WHITE BALANCE> screen

- Perform adjustment with the **VOLUME/ENTER** button.

* You can set (adjust) WHITE BALANCE to HIGH or LOW.

Items	Contents
BLUE DRIVE	Adjusts the blue drive level. [Left Arrow] ... Decreases the blue drive level. [Right Arrow] ... Increases the blue drive level.
RED DRIVE	Adjusts the red drive level. [Left Arrow] ... Decreases the red drive level. [Right Arrow] ... Increases the red drive level.
GREEN CUT OFF	Sets the green cutoff point. [Left Arrow] ... Decreases the green cutoff point. [Right Arrow] ... Increases the green cutoff point.
BLUE CUT OFF	Sets the blue cutoff point. [Left Arrow] ... Decreases the blue cutoff point. [Right Arrow] ... Increases the blue cutoff point.
RED CUT OFF	Sets the red cutoff point. [Left Arrow] ... Decreases the red cutoff point. [Right Arrow] ... Increases the red cutoff point.

- BLUE DRIVE : adjusts the blue drive
- RED DRIVE : adjusts the red drive
- GREEN CUT OFF : adjusts the green cutoff
- BLUE CUT OFF : adjusts the blue cutoff
- RED CUT OFF : adjusts the red cutoff

* There is a total range of 256 for each item. "MIN" is displayed for the minimum level, and "MAX" for the maximum level. Each item's factory-set value is listed as "000 (STANDARD)", and the available range up (+) or down (-) varies (although there are always 256 values total, including "MIN", "000" and "MAX"). Therefore, the values for "MIN" and "MAX" vary for each item.

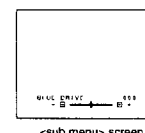
SELECTING [← sub menu] IN PROCEDURE 4

You can also adjust items in procedure 5 with only the selected item displayed. Use this if the full menu screen makes it difficult to observe the monitor image.

- Select the [← sub menu] item in procedure 4.

- Press the **VOLUME/ENTER** button.

The <sub menu> screen appears.
(A single item is displayed at a time.)



<sub menu> screen

- Press the **SELECT** button to select the desired item.

- Perform adjustment with the **VOLUME/ENTER** button.

RESETTING ITEMS TO THEIR FACTORY-SET (INITIAL) VALUES

You can reset the <WHITE BALANCE> items to their factory-set (initial) values.

- Select the [reset] item in procedure 4.

- Press the **VOLUME/ENTER** button.

The <reset> screen appears.



<reset> screen

- Perform adjustment with the **VOLUME/ENTER** button or the **MENU** button.

VOLUME/ENTER button... Values are reset.
MENU button... Reset is aborted (values are unchanged).

* The screen from procedure 4 reappears.

- After adjustment is complete, press the **MENU** button twice to exit the menu screen.

Notes:

- The menu screen automatically disappears when no operation is performed after about 30 seconds.
- When a prompt appears in the menu screen, it does not disappear until the operation requested is performed.
- Items that cannot be set or adjusted in the current input mode (INPUT SELECT) are not displayed.

RESETTING ALL MENU ITEMS TO THEIR FACTORY-SET (INITIAL) VALUES

You can reset all the items in the <MAIN MENU> screen and <SET-UP MENU> screen to their factory-set (initial) values. This function (all reset) is set in the <SET-UP MENU> screen.

- While pressing the **SELECT** button, press the **VOLUME/ENTER** button.

The <SET-UP MENU> screen appears.



<SET-UP MENU> screen

- Press the **SELECT** button to select the [all reset] item.

The selection mark (▶) moves to the [all reset] item.



<SET-UP MENU> screen

- Press the **VOLUME/ENTER** button.

The <all reset> screen appears.



<all reset> screen

- Perform adjustment with the **VOLUME/ENTER** button or the **MENU** button.

VOLUME/ENTER button... All the items are reset to their factory-set (initial) values.

MENU button... All-reset is aborted (values are unchanged).

* The screen from procedure 2 (the <SET-UP MENU> screen) reappears.








- After adjustment is complete, press the **MENU** button to exit the menu screen.

Notes:

- All the menu items are reset. If there are items you do not want to reset, cancel <all reset>.
- The menu screen automatically disappears when no operation is performed after about 30 seconds.
- When a prompt appears in the menu screen, it does not disappear until the operation requested is performed.

TROUBLESHOOTING

Solutions to common problems related to your monitor are described here. If none of the solutions presented here solve the problem, unplug the monitor and consult a JVC-authorized dealer or service center for assistance.

Problems	Points to be checked	Measures (Remedy)	Reference page
No power supply	Is the power plug loosened or disconnected?	Firmly insert the power plug.	5, 6
No picture with the power on	Is the signal cable disconnected?	Connect the signal cable firmly.	5, 6, 7
	Is the power of the connected component ON? Is the signal output from the connected component?	Turn on the power of the connected component and set it correctly.	—
	Is the input signal selected correctly?	Select the correct input with the INPUT SELECT buttons.	4, 8
	Is the input signal adapted to the monitor's specification?	Check that the scanning frequency of the monitor is as follows: Horizontal: 15 kHz/31 kHz – 65 kHz Vertical: 50 Hz – 100 Hz	14, 15, 22
	Is the POWER indicator () blinking?	The POWER SAVE function is activated. When no horizontal/vertical synchronization signals are detected, the POWER indicator blinks and the monitor enters suspended mode. To turn it off, perform one of the following: • Operate the computer, • Input signals correctly, • Unplug the power cord and reconnect it, • Set the POWER SAVE function to OFF.	16
No sound	Is the audio cable disconnected?	Connect the audio cable firmly.	5, 6, 7
	Is the audio signal output from the connected component?	Set the connected component correctly.	—
	Is the volume output set to minimum?	Adjust the speaker volume with the VOLUME/ ENTER  /  buttons.	4, 8
Wrong color	Has the picture adjustment been changed?	Set each picture adjustment knob to the standard (centered) position. Or, set each picture adjustment item in [PICTURE ADJ.] in the <MAIN MENU> screen to Standard (00) (or use the [reset] function).	9, 12
	Has the WHITE BALANCE setting been changed?	Set each [WHITE BALANCE] item in the <SET-UP MENU> screen to Standard (000) (or use the [reset] function).	18, 19
	Is an INPUT A (RGB/COMPO.) signal cable disconnected when watching INPUT A?	Connect each signal cable firmly.	5, 6, 7
	Is the INPUT A (RGB/COMPO.) signal setting correct (RGB or COMPO.) when watching INPUT A?	Set the [RGB/COMPO.] item in [FUNCTION SELECT] in the <MAIN MENU> screen correctly.	13
Unnatural picture	Has [CONTRAST] or [BRIGHT] been changed?	Adjust the CONTRAST  or BRIGHT  picture adjustment knobs. Or, adjust the [CONTRAST ] or [BRIGHT ] item in [PICTURE ADJ.] in the <MAIN MENU> screen.	9, 12
Shaking picture	Is the monitor close to a motor, transformer or any other device generating a strong magnetic field? (a fan, fluorescent light, laser printer, another monitor, etc.)	Move the monitor away from the device until the picture stops shaking. Connect the power plug to another AC outlet away from the former one.	—

Problems	Points to be checked	Measures (Remedy)	Reference page
Irregular color	Is the monitor placed or moved close to a speaker or any other device incorporating a magnet? Has the position of the monitor been changed with the power on?	Move the device away from the monitor. Set the [DEGAUSS] item in the <MAIN MENU> screen to degauss the screen. When degaussing, wait more than 30 minutes for maximum effect.	15
Wrong picture position, wrong picture size	Has the picture position, size or distortion been changed?	Adjust the picture size (H SIZE, V SIZE) or position (H POSITION, V POSITION) in the [SIZE/POSITION ADJ.] item in the <MAIN MENU> screen. Adjust the picture distortion (PINCUSHION, PIN. BALANCE, TRAPEZOID and PARALLELOGRAM) in the [DISTORTION ADJ.] item in the <MAIN MENU> screen. It may not be possible to expand the picture due to the selected input mode. In this case, adjustment is impossible.	10, 11
	Has the scan size or aspect ratio setting been changed?	Adjust the [SCAN SIZE] or [ASPECT] item in [FUNCTION SELECT] in the <MAIN MENU> screen.	13
Front panel buttons and knobs do not function	Has the CONTROL LOCK function been set to ON?	Set the CONTROL LOCK function to OFF.	17

The following are not malfunctions:

- When a bright still image (such as a white cloth) is displayed for a long period, it may appear to be colored. This is due to the structure of the cathode ray tube and will disappear when another image is displayed.
- You may sometimes experience a mild electric shock when you touch the picture tube. This phenomenon is due to a normal buildup of static electricity on the CRT and is not harmful.
- The monitor emits a strange sound when the room temperature changes suddenly. This is only a problem if an abnormality appears on the screen as well.
- If two or more monitors are operated next to each other, their images may shake or be distorted. This phenomenon is due to mutual interference; it is not a malfunction. Move the monitors away from each other until the interference disappears or turn the power off on any monitor that is not being used.

If the INPUT A or INPUT B indicator blinks:

It means that a malfunction has been detected by the monitor's self-test function.

INPUT A indicator blinks : bus control malfunction

INPUT B indicator blinks : deflection control malfunction

When one of these indicators blink, the protection function automatically cuts power.

If this happens, turn the power off, unplug the monitor and consult a JVC-authorized dealer or service center for repair.

SPECIFICATIONS

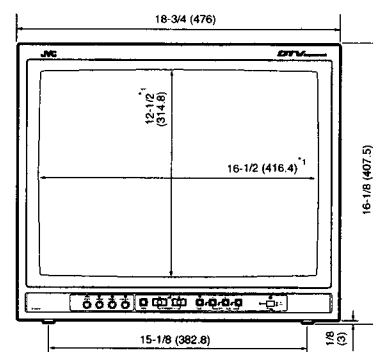
- **Type** : DTV monitor
- **Picture Tube** : 20" measured diagonally, in-line gun, 90° deflection, dot-trio type (dot-trio pitch 0.26 mm)
- **Effective Screen**
 - Size** : Width : 16" (406.4 mm)
Height : 12" (304.8 mm)
Diagonal : 20" (508 mm)
- **Scanning**
 - Frequency** : H : 15 k/31 k — 65 kHz
V : 50 — 100 Hz
- **Video Band** : DC — 60 MHz (RGB)
- **Horizontal**
 - Resolution** : NTSC : 600 TV lines
1080i : 900 TV lines
- **Input Terminals**
 - INPUT A** : RGB/COMPO. multi-input
1 line, BNC connector x 6 (bridge connection possible, auto termination)
Analog RGB signal
R, B : 0.7 Vp-p, 75 Ω
G : 0.7 Vp-p, 75 Ω
G on sync : 1.0 Vp-p, 75 Ω (negative sync)
Y/R-Y/B-Y component signal
Y : 1.0 Vp-p, 75 Ω (negative sync)
R-Y/B-Y : 0.7 Vp-p, 75 Ω
DTV-format signal
[480i (ITU-R BT. 601-4), 480p (SMPTE 293M)]
Y : 1.0 Vp-p, 75 Ω (negative sync)
Pb, Pr : 0.7 Vp-p, 75 Ω
[720p (SMPTE 296M), 1080i (SMPTE 274M)]
Y : 1.0 Vp-p, 75 Ω (3-value sync)
Pb, Pr : 0.7 Vp-p, 75 Ω
- External Synchronization**
 - : EXT SYNC (HD/Cs, VD) input
1 line, BNC connector x 4 (bridge connection possible, auto termination)
Horizontal/composite synchronization signal
HD : 1 — 4 Vp-p, 75 Ω
Cs : 1 — 4 Vp-p, 75 Ω
Vertical synchronization signal
VD : 1 — 4 Vp-p, 75 Ω
- INPUT B** : VIDEO input
1 line, BNC connector x 2 (bridge connection possible, auto termination)
1.0 Vp-p, 75 Ω (negative sync)
Y/C input
1 line, mini-DIN 4-pin connector x 1
Y : 1.0 Vp-p, 75 Ω (negative sync)
C : 0.286 Vp-p (burst signal), 75 Ω
* (When both terminals are connected at the same time, the Y/C terminal is given priority.)
- INPUT C** : PC (RGB) input
1 line, D-sub 3-row 15-pin connector x 1
* exclusively for computer signal input (SYNC termination: 330 Ω)
- AUDIO INPUT** : 1 line, RCA pin x 1 (monaural)
0.5 Vrms, high-impedance
- **Remote**
 - Input/Output** : 1 line, DIN 8-pin connector x 1
External input select control of 3 bits (signal of 2 bits, ENABLE signal of 1 bit)
Input status output of 2 bits

- **Audio Output** : 1 W (monaural)
- **Built-In**
 - Speaker** : 3-1/8" (8 cm) round x 1
Impedance of 8 Ω
- **Environmental**
 - Conditions** : Operating temperature:
0 — 40 °C (32 — 104 °F)
Operating humidity:
20 — 80 % (non-condensing)
- **Power**
 - Requirements**: 120 V AC, 60 Hz
- **Power**
 - Consumption** : 1.6 A
- **Dimensions**
 - (W x H x D)** : 18-3/4" x 16-1/8" x 20-7/8"
(476 x 407.5 x 529 mm)
- **Weight** : 69.6 lbs (31.6 kg)
- **Accessory** : AC power cord [7.87 ft (2.4 m)] x 1

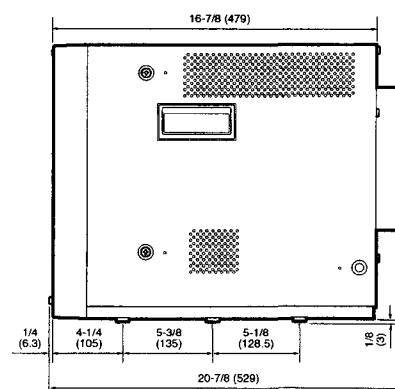
[Dimensions]

Unit: inch (mm)

<Front View>



<Side View>



- * Illustrations and pictures used in this manual have been exaggerated, abbreviated or compounded for explanatory purposes only. The appearance of the actual product may differ slightly.
- * Dimensions and weight are approximate.
- * E. & O.E. Design and specifications subject to change without notice.

■ DTV-Format Signals

* The following are DTV-format signals that can be input.

DTV Formats	480i	480p	720p	1080i
Signal Standard	ITU-R BT. 601-4	SMPTE 293M	SMPTE 296M	SMPTE 274M
Scanning Lines/Frame	525	525	750	1125
Effective Sample x Scanning Lines	720 x 485	720 x 483	1280 x 720	1920 x 1080
Field Frequency (Hz)	59.94	59.94	60/59.94	60/59.94
Line Frequency (Hz)	15734	31468.5	45000/44955	33750/33716.25
Sampling Frequency (MHz)	54	135	148.5/148.351648	148.5/148.35168
Interlace Ratio	0.5	1	1	0.5

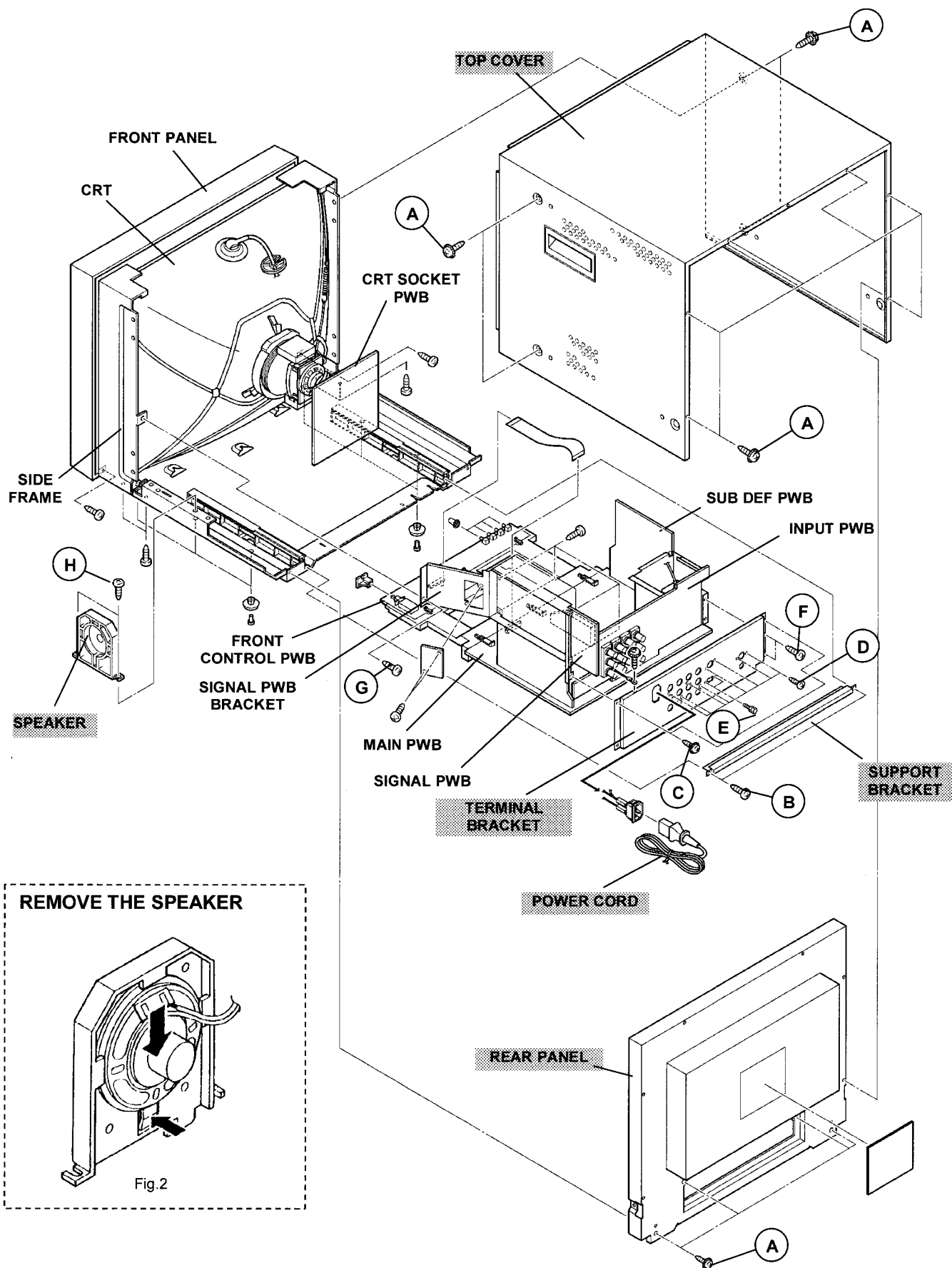


Fig.1

No. 51519B

MEMORY IC REPLACEMENT NOTES

This model uses non-volatile memory ICs. When these are replaced, the data must be reset.

Video and deflection system data are stored in MEMORY IC. If this is replaced without entering the data, a normal picture will not be obtained. When replacing, be sure to use an IC containing the (initial value) data.

■ PROCEDURE FOR REPLACING MEMORY IC

1. Switch off the power and disconnect the power cord from the wall outlet.
2. Replace the MEMORY IC.
Be sure to use an IC containing the (initial value) data.
3. Reconnect the power plug to the wall outlet and power on.
4. Check and set SET-UP MENU.
 - 1) Press the **VOL** - key and **SELECT** key simultaneously.
 - 2) The screen displays the SET-UP MENU(Fig.1).
 - 3) Check the values of SET-UP MENU refer to the table given page later.
5. Check and set MAIN MENU(Fig.2).
Press the **MENU** key and enter the MAIN MENU screen. Refer to the initial setting values that table given page later and if illegal, enter the correct values.
6. Refer to the initial setting values that table given page later and if illegal, enter the correct values.
7. Perform adjustments according to the adjustment items(Fig.3).
8. Confirm the INITIAL SETTINGS OF THE SERVICE MENU. For setting SERVICE MENU items, refer to the SERVICE ADJUSTMENTS.

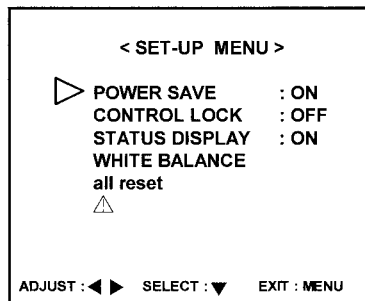


Fig.1

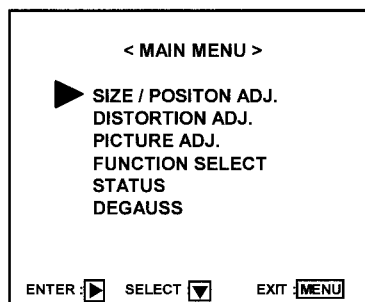


Fig.2

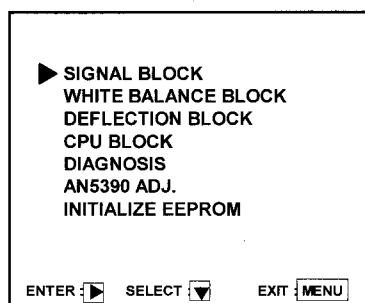


Fig.3

INITIALIZE VALUES OF THE SET-UP MENU

ITEM	CONTENTS / VALUE	INITIALIZE VALUE
POWER SAVE	→ ON → OFF →	OFF
CONTROL LOCK	→ ON → OFF →	OFF
STATUS DISPLAY	→ ON → OFF →	ON
WHITE BALANCE	—	—

INITIALIZE VALUES OF THE MENU SCREEN

ITEM	INITIALIZE VALUE	ITEM	INITIALIZE VALUE
SIZE / POSITION ADJ		PICTURE ADJ	
H SIZE	00	RGB COMPO.	COMPO.
H POSITION	00	SCAN SIZE	OVER:NTSC/480i OVER1:480P/720P/1080i
V SIZE	00	ASPECT	16:09(INPUT A) 4:3(INPUT B)
V POSITION	00	COLOR OFF	ON
DISTORTION ADJ		COLOR TEMP.	LOW
PIN-CUSHION	00		
PIN. BALANCE	00		
PARALLELOGRAM	00		
TRAPEZOID	00		

INITIALIZE VALUES OF THE FRONT PANEL CONTROLS

ITEM	CONTENTS / VALUE	INITIALIZE VALUE
INPUT SELECT	INPUT A, B, C	INPUT A
CONTRAST	-20 ~ 00 ~ +20	00
BRIGHT	-20 ~ 00 ~ +20	00
CHROMA	-20 ~ 00 ~ +20	00
PHASE	-20 ~ 00 ~ +20	00
APERTURE	-20 ~ 00 ~ +20	00
VOLUME	00 ~ 50	10

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

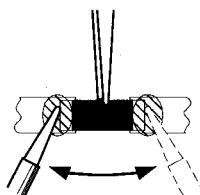
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

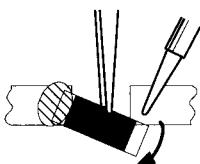
1. How to remove Chip parts

◆ Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



- (2) Shift with tweezers and remove the chip part.

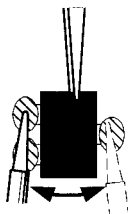


◆ Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

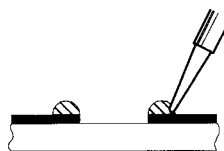


Note : After removing the part, remove remaining solder from the pattern.

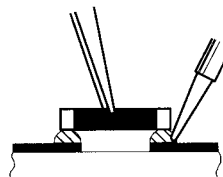
2. How to install Chip parts

◆ Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.

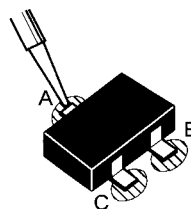


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

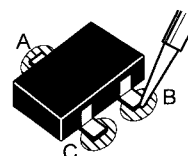


◆ Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead **A** as indicated in the figure.



- (4) Then solder leads **B** and **C**.



SERVICE ADJUSTMENTS

BEFORE STARTING SERVICE ADJUSTMENTS

2. Confirm the proper AC power voltage is being supplied.
3. Supply power to the set and measuring instruments and allow to warm up for at least 30 minutes.
4. The setting is made on basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
5. Use care not to disturb controls and switches not mentioned in the adjustment items.

ADJUSTMENT SETTINGS

For the functions except for those which must set the values every time during the adjustment procedure, begin to make adjustments after returning the setting values to the initial values while referring to the table in page 7. If each value of the functions has not been initialized, the adjustments cannot be made properly.

ADJUSTMENT ITEMS

- Check of the B1voltage
- Adjustment of the high voltage
- Focus adjustment
- Deflection adjustment of VGA signal input
- Deflection adjustment of NTSC 4:3 signal input
- Deflection adjustment of NTSC 16:9 signal input
- Deflection adjustment of 480i signal input
- Deflection adjustment of 480P signal input
- Deflection adjustment of 720p signal input
- Deflection adjustment of 1080i signal input
- Chroma & Phase adjustment
- Contrast adjustment
- White balance adjustment
- Bright adjustment

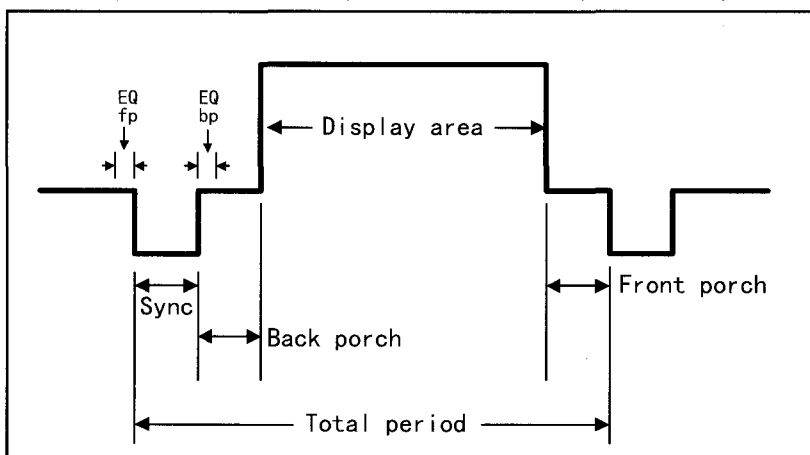
MEASURING INSTRUMENTS AND FIXTURES

- DC voltmeter (digital voltmeter)
- Oscilloscope
- Color analyzer
- High voltage meter
- Signal generator (shown below table)

SIGNAL FORMAT	SIGNAL PATTERN
NTSC composite video signal	75% color bar pattern
NTSC Y/C separate signal	Sprit color bar pattern
NTSC RGB signal	Crosshatch cricle pattern
NTSC Component signal	Circle pattern
PC video terminal signal	Crossgatch circle pattern
(26kHz/50Hz, 31kHz/60Hz, 36kHz/70Hz, 42kHz/80Hz, 47kHz/90Hz)	Philips pattern (including R-Y and B-Y)
DTV format component signal	
(480i/480p, 720p, 1080i)	

THE TIMING CHART OF THE SIGNALS REQUIRED FOR ADJUSTMENT

By referring to the table and figure given bellow, it is able to produce the adjustment waveforms by programming signal generator.



Adjustment for HORIZONTAL LINEARITY

SIGNAL	RESOLUTION (H X V)	FREQUENCY (fh:kHz / fv:Hz)	DOT CLOCK (MHz)	HORIZONTAL(Dot)				VERTICAL(H)			
				Period	Sync	Back Porch	Display Area	Period	Sync	Back Porch	Display Area
VGA 480	640×480	31.47 / 60	25.17	800	96	48	640	525	2	25	480
SVGA600	800×600	35.16 / 56.26	36	1024	72	128	800	625	2	22	600
SVGA768	1024×768	56.47 / 70	75	1328	184	102	1024	806	6	29	768
MAC16	832×624	49.41 / 74.52	56.62	1146	65	226	832	663	3	35	624

Adjustment for VERTICAL LINEARITY

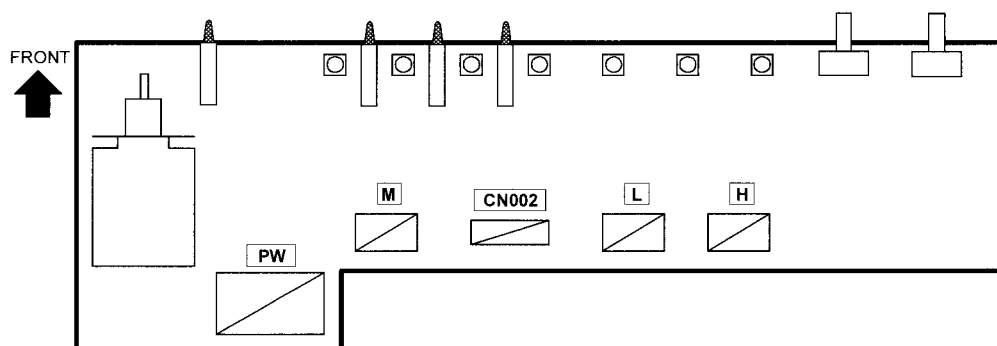
SIGNAL	RESOLUTION (H X V)	FREQUENCY (fh:kHz / fv:Hz)	DOT CLOCK (MHz)	HORIZONTAL(Dot)				VERTICAL(H)			
				Period	Sync	Back Porch	Display Area	Period	Sync	Back Porch	Display Area
50Hz	640×480	26.25 / 50	21	800	96	48	640	525	2	25	480
70Hz	640×480	36.75 / 70	29.4	800	96	48	640	525	2	25	480
80Hz	640×480	42.37 / 80	33.9	800	96	48	640	525	2	25	480
90Hz	640×480	47.37 / 90	37.9	800	96	48	640	525	2	25	480

■ Timing chart of input signals

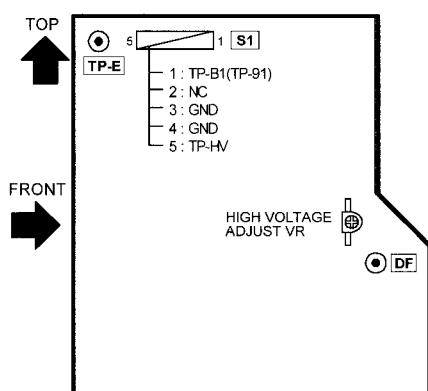
Signal	NTSC (4:3)	480i	480P	720P	1080i
Resolution (H)	768	720	720	1280	1920
Resolution (V)	243	244	483	720	540
Freq. fH (kHz)	15.73	15.73	31.469	44.955	33.75
Freq. fH (Hz)	29.97i	29.97i	59.94	59.94	30i
CV&V		RGB	RGB	RGB	RGB
CS	-1	-1	-1	-1	-1
HS	1	-1	-1	-1	-1
VS	1	-1	-1	-1	-1
Dot clock (MHz)	14.318	13.5	27	74.176	74.176
H period	910	858	858	1650	2200
H sync	68	63	63	40	44
H back p.	58	59	59	260	192
H disp	768	720	720	1280	1920
V period	263	263	525	750	562
V sync	3	3	6	5	5
V back p.	14	13	30	20	15
V disp.	243	243	483	720	540
EQ (fp/bp)	3H/3H	3H/3H	3H/3H	3H/3H	3H/3H

ADJUSTMENT LOCATIONS

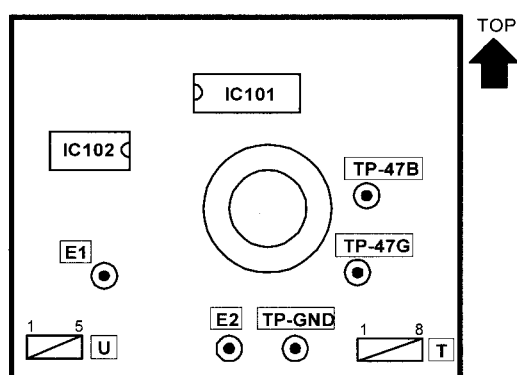
FRONT CONTROL PWB



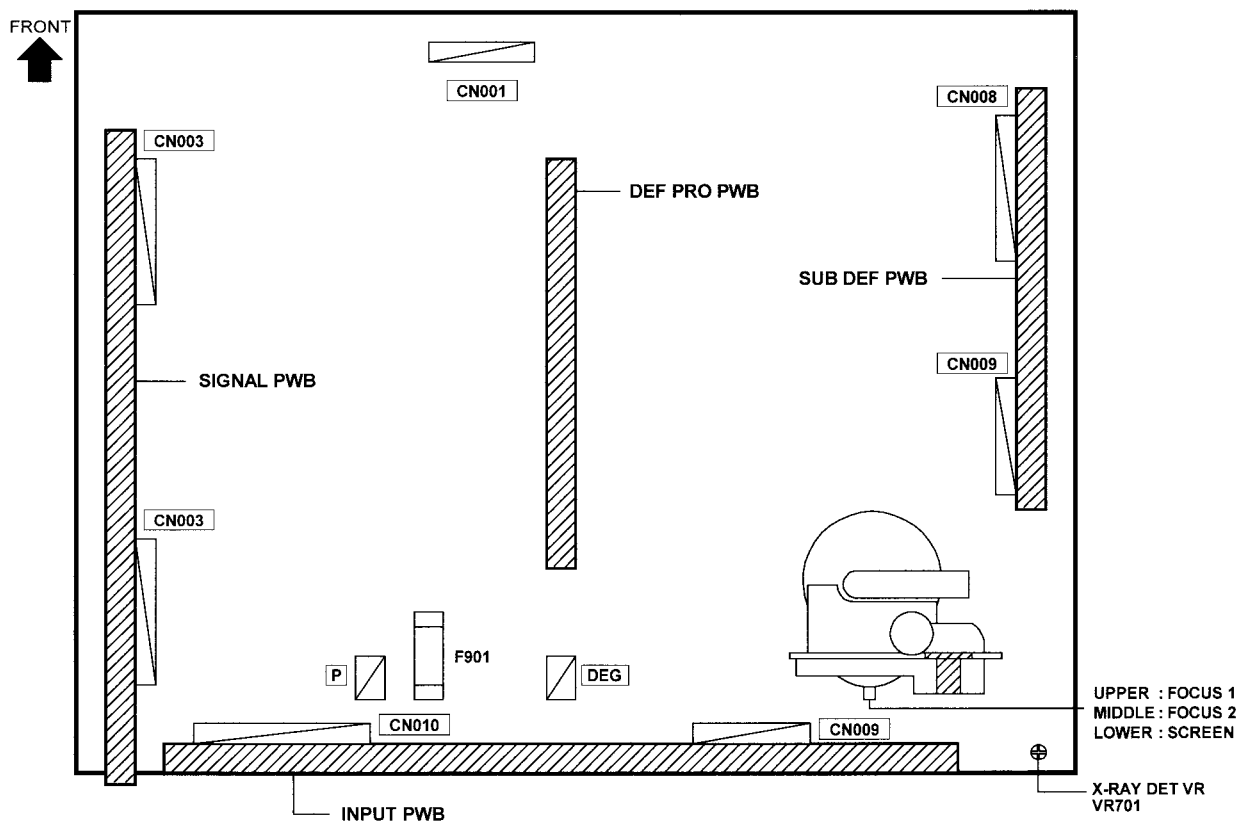
SUB DEF PWB



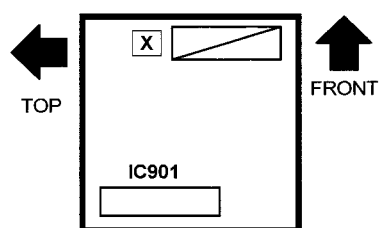
CRT SOCKET PWB



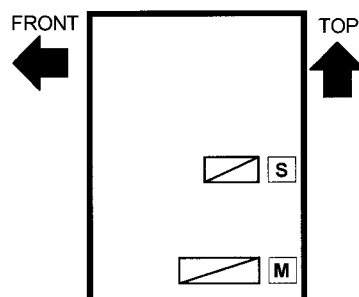
MAIN PWB



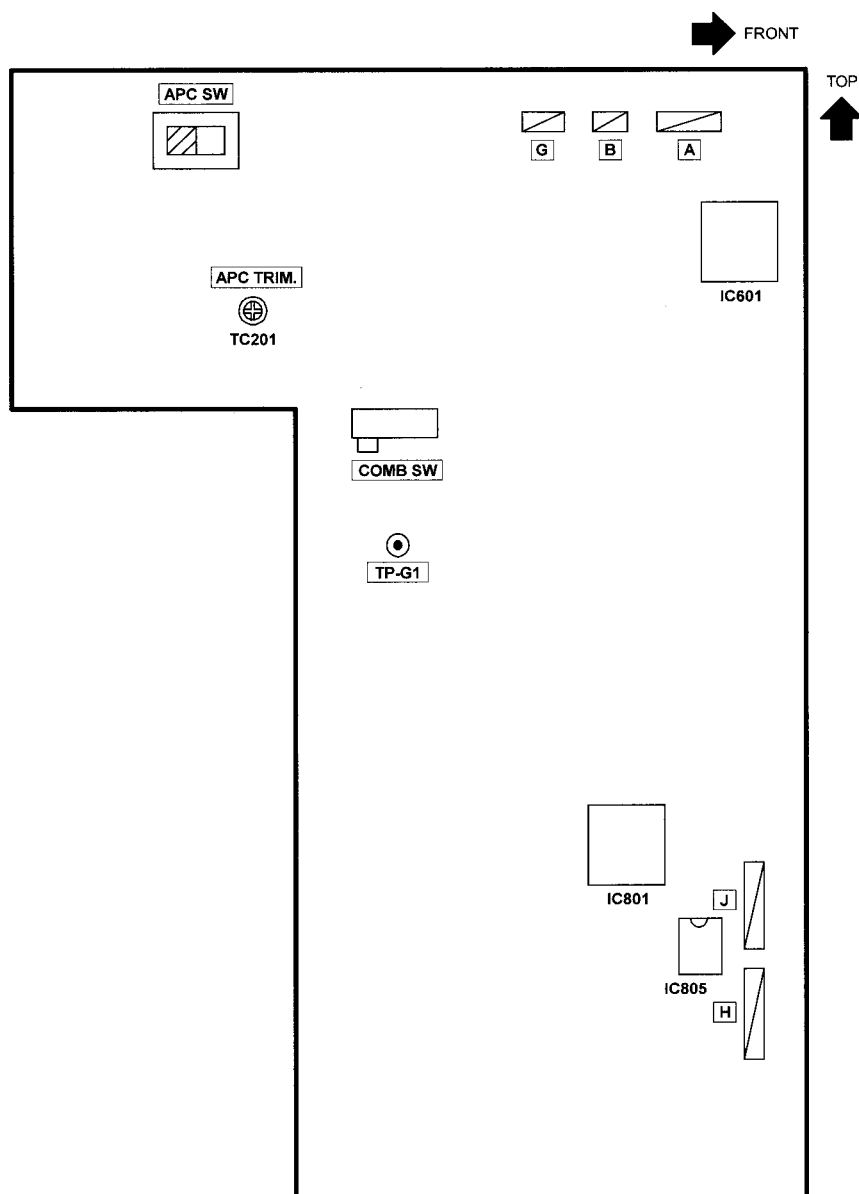
SUB POWER PWB



AUDIO PWB



SIGNAL PWB



BASIC OPERATION OF SERVICE MANUAL

1. SERVICE MENU ITEMS

With the SERVICE MENU, various settings can be made, and they are broadly classified in the following items of adjustment.
Don't change the values, if not to necessary.

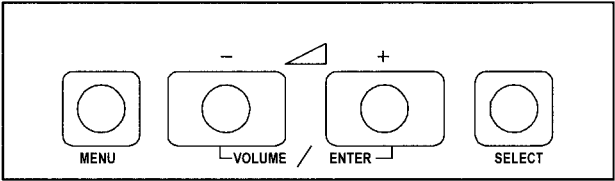
- SIGNAL BLOCK** This mode adjusts the data of the video / chroma and various signal
- WHITE BALANCE BLOCK** This mode adjusts the data of the WHITE BALANCE, cutoff and drive, adjustment.
- DEFLECTION BLOCK** This mode adjusts the data of the DEFLECTION circuit.
- CPU BLOCK** This mode includes the micom control values.
(Because it's no requires for SERVICE, don't touch this mode.)
- DIAGNOSIS** Show the results of the self-check function.
- AN5390 ADJ.**..... This mode indicates the data of the RGB processor IC AN5390 conditions.
(Because it's no requires for SERVICE, don't touch this mode)
- INITIALIZE EEPROM** Initialize the user setting memory.

2. BASIC OPERATION OF THE SERVICE MENU


1) HOW TO ENTER THE SERVICE MENU


It is not used the remote controller in SERVICE MENU adjustment for this unit.
Use the 4 keys positioned front panel of this unit for entering the SERVICE MENU.

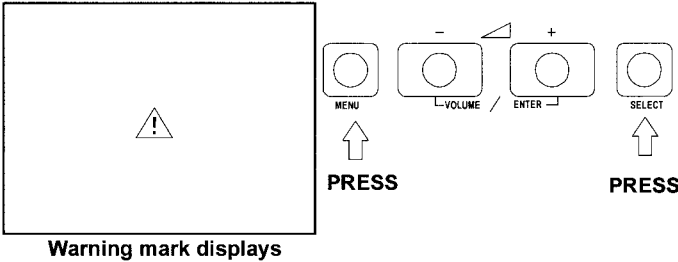
① Press the **MENU** key and **SELECT** key simultaneously.



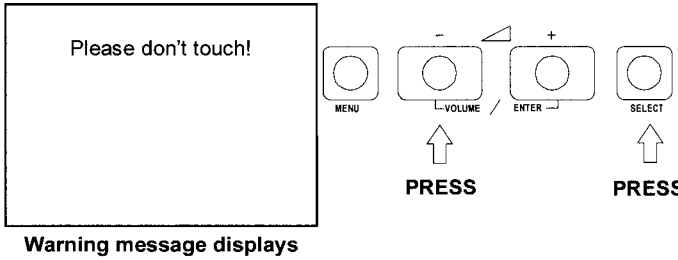
4 keys for operating SERVICE MENU

② The  mark displays at the center of the screen.

③ Press the **VOL -** key and **SELECT** key simultaneously, until delete the  mark.

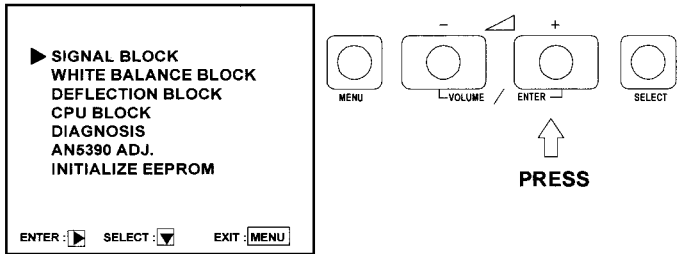


④ Displays the “Please don’t touch!” on the screen.

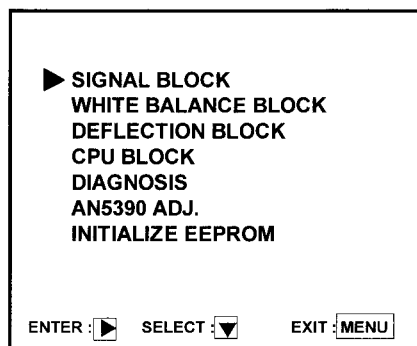


⑤ Press the **VOL +** key, until delete the message.

⑥ SERVICE MENU screen shows on the screen.



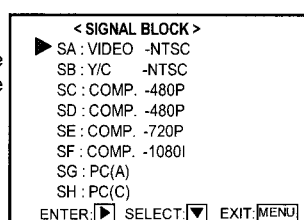
SERVICE MENU(MAIN) displays



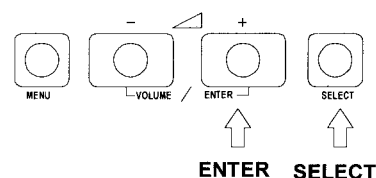
SERVICE MENU(MAIN) displays

2) SELECT THE SUB MENU SCREEN AND ADJUSTMENT

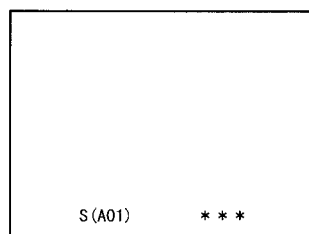
- ① While displaying the SERVICE MENU (MAIN), select the adjustment item by press the **SELECT** key, and press the **VOL +** key to enter the SUB MENU.



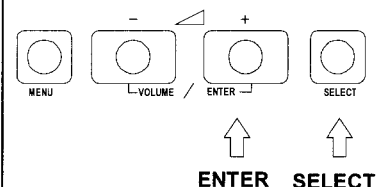
SUB MENU displays



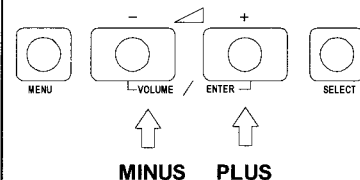
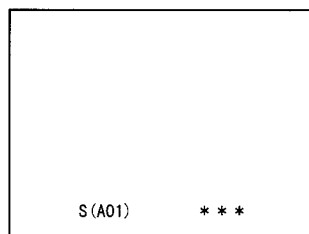
- ② Then again select the item by pressing the **SELECT** key, and enter the adjustment screen by pressing the **VOL +** key.



Adjustment item screen

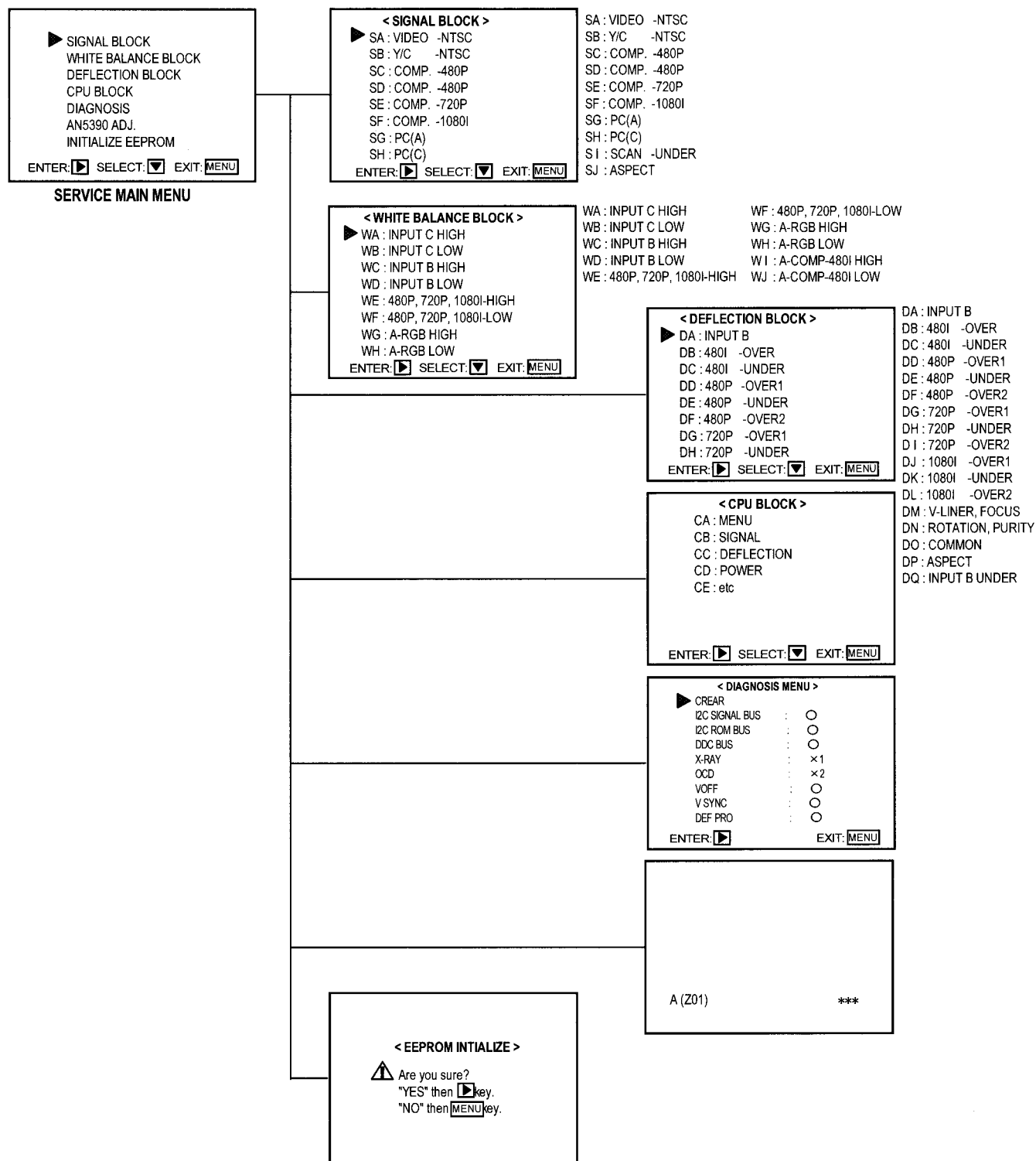


- ③ Press the **VOL- / +** key to increment and decrement the setting value for adjustment.



3) SERVICE MENU EXIT

- ① If complete the adjustment, then press the **MENU** key. Return to the SUB MENU screen.
- ② Press the **MENU** key, return to the **SERVICE MENU (MAIN)**.
- ③ If continued adjustment, select the SUB MENU again, and adjust. Press the **MENU** key to exit the normal screen.



■ INITIAL SETTINGS OF THE SERVICE MENU ADJUSTMENT ITEMS

SIGNAL BLOCK

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
SA [NTSC VIDEO]			SB [NTSC Y/C]		
1	CONTRAST	120	1	CONTRAST	00
2	BRIGHT	120	2	BRIGHT	00
3	CHROMA	44	3	CHROMA	00
4	PHASE	57	4	PHASE	00
5	APERTURE	20	5	APERTURE	00
6	CONTRAST SUB	51	6	CONTRAST SUB	-6
7	BRIGHT SUB	118	7	BRIGHT [SUB]	00
8	CHROMA SUB	27	8	CHROMA [SUB]	00
9	B-Y GAIN	41	9	B-Y GAIN	00
10	R-Y DEG	0	10	R-Y GAIN	00
11	BRIGHT LOW	0	11	BRIGHT LOW	00
SC [COMPONENT 480i]			SD [COMPONENT 480P]		
1	CONTRAST	00	1	CONTRAST	-7
2	BRIGHT	00	2	BRIGHT	00
3	CHROMA	20	3	CHROMA	-8
4	PHASE	10	4	PHASE	9
5	APERTURE	00	5	APERTURE	00
6	CONTRAST SUB	-8	6	CONTRAST SUB	-6
7	BRIGHT [SUB]	00	7	BRIGHT [SUB]	00
8	CHROMA [SUB]	00	8	CHROMA [SUB]	00
9	B-Y GAIN	00	9	B-Y GAIN	00
10	R-Y GAIN	00	10	R-Y GAIN	00
11	BRIGHT LOW	00	11	BRIGHT LOW	00
SE [COMPONENT 720P]			SF [COMPONENT 1080i]		
1	CONTRAST	-8	1	CONTRAST	-10
2	BRIGHT	00	2	BRIGHT	00
3	CHROMA	10	3	CHROMA	-4
4	PHASE	9	4	PHASE	10
5	APERTURE	00	5	APERTURE	00
6	CONTRAST SUB	-6	6	CONTRAST SUB	-6
7	BRIGHT [SUB]	00	7	BRIGHT [SUB]	00
8	CHROMA [SUB]	00	8	CHROMA [SUB]	00
9	B-Y GAIN	00	9	B-Y GAIN	00
10	R-Y GAIN	00	10	R-Y GAIN	00
11	BRIGHT LOW	00	11	BRIGHT LOW	00

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
SG [PC (A)]			SH [PC (B)]		
1	CONTRAST	-8	1	CONTRAST	00
2	BRIGHT	00	2	BRIGHT	00
3	CHROMA	00	3	BRIGHT LOW	00
SI [UNDER SCAN]			SJ [ASPECT]		
1	480i CONTRAST	00	1	NTSC-VIDEO CONTRAST	00
2	480i BRIGHT	00	2	NTSC-VIDEO BRIGHT HIGH	00
3	480i BRIGHT LOW	00	3	NTSC-VIDEO BRIGHT LOW	00
4	480P CONTRAST	00	4	NTSC-Y/C CONTRAST	00
5	480P BRIGHT	00	5	NTSC-Y/C BRIGHT HIGH	00
6	480P BRIGHT LOW	00	6	NTSC-Y/C BRIGHT LOW	00
7	720P CONTRAST	00	7	480i over CONTRAST	00
8	720P BRIGHT	00	8	480i over BRIGHT HIGH	00
9	720P BRIGHT LOW	00	9	480i over BRIGHT LOW	00
10	1080i CONTRAST	00	10	480i under CONTRAST	00
11	1080i BRIGHT	00	11	480i under BRIGHT HIGH	00
12	1080i BRIGHT LOW	00	12	480i under BRIGHT LOW	00
			13	480P over CONTRAST	00
			14	480P over BRIGHT	00
			15	480P over BRIGHT LOW	00
			16	480P under CONTRAST	00
			17	480P under BRIGHT	00
			18	480P under BRIGHT LOW	00

WHITE BALANCE BLOCK

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
WA [PC(INPUT C) HIGH]			WB [PC(INPUT C) LOW]		
1	DRIVE R	160	1	DRIVE R	160
2	DRIVE G	160	2	DRIVE G	160
3	DRIVE B	160	3	DRIVE B	160
4	CUT OFF R	128	4	CUT OFF R	128
5	CUT OFF G	128	5	CUT OFF G	128
6	CUT OFF B	128	6	CUT OFF B	128
WC [INPUT B HIGH]			WD [INPUT B LOW]		
1	DRIVE R	00	1	DRIVE R	00
2	DRIVE G	00	2	DRIVE G	00
3	DRIVE B	00	3	DRIVE B	00
4	CUT OFF R	00	4	CUT OFF R	00
5	CUT OFF G	00	5	CUT OFF G	00
6	CUT OFF B	00	6	CUT OFF B	00
WE [480P, 720P, 1080i HIGH]			WF [480P, 720P, 1080i LOW]		
1	DRIVE R	00	1	DRIVE R	00
2	DRIVE G	00	2	DRIVE G	00
3	DRIVE B	00	3	DRIVE B	00
4	CUT OFF R	00	4	CUT OFF R	00
5	CUT OFF G	00	5	CUT OFF G	00
6	CUT OFF B	00	6	CUT OFF B	00
WG [PC HIGH]			WH [PC LOW]		
1	DRIVE R	00	1	DRIVE R	00
2	DRIVE G	00	2	DRIVE G	00
3	DRIVE B	00	3	DRIVE B	00
4	CUT OFF R	00	4	CUT OFF R	00
5	CUT OFF G	00	5	CUT OFF G	00
6	CUT OFF B	00	6	CUT OFF B	00
WI [480i HIGH]			WJ [480i LOW]		
1	DRIVE R	00	1	DRIVE R	00
2	DRIVE G	00	2	DRIVE G	00
3	DRIVE B	00	3	DRIVE B	00
4	CUT OFF R	00	4	CUT OFF R	00
5	CUT OFF G	00	5	CUT OFF G	00
6	CUT OFF B	00	6	CUT OFF B	00

DEFLECTION BLOCK

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
DA [INPUT B]			DB [480i OVER]		
1	HORIZONTAL SIZE	50	1	HORIZONTAL SIZE	-10
2	VERTICAL SIZE	145	2	VERTICAL SIZE	-35
3	HORIZONTAL SHIFT	120	3	HORIZONTAL SHIFT	00
4	VERTICAL SHIFT	130	4	VERTICAL SHIFT	-2
5	SIDE PIN CUSHION	-3	5	SIDE PIN CUSHION	5
6	CORNER CORRECT	128	6	CORNER CORRECT	00
7	PARALLELOGRAM	130	7	PARALLELOGRAM	00
8	TRAPEZOID	126	8	TRAPEZOID	00
9	BARELL DISTORTION	125	6	BARELL DISTORTION	00
DC [480i UNDER]			DD [480P OVER1]		
1	HORIZONTAL SIZE	-25	1	HORIZONTAL SIZE	10
2	VERTICAL SIZE	-10	2	VERTICAL SIZE	110
3	HORIZONTAL SHIFT	00	3	HORIZONTAL SHIFT	140
4	VERTICAL SHIFT	-2	4	VERTICAL SHIFT	130
5	SIDE PIN CUSHION	-5	5	SIDE PIN CUSHION	00
6	CORNER CORRECT	00	6	CORNER CORRECT	128
7	PARALLELOGRAM	00	7	PARALLELOGRAM	128
8	TRAPEZOID	00	8	TRAPEZOID	125
9	BARELL DISTORTION	1	6	BARELL DISTORTION	128
DE [480P UNDER]			DF [480P OVER2]		
1	HORIZONTAL SIZE	-25	1	HORIZONTAL SIZE	20
2	VERTICAL SIZE	-8	2	VERTICAL SIZE	5
3	HORIZONTAL SHIFT	00	3	HORIZONTAL SHIFT	00
4	VERTICAL SHIFT	-1	4	VERTICAL SHIFT	-1
5	SIDE PIN CUSHION	-3	5	SIDE PIN CUSHION	00
6	CORNER CORRECT	8	6	CORNER CORRECT	00
7	PARALLELOGRAM	00	7	PARALLELOGRAM	3
8	TRAPEZOID	2	8	TRAPEZOID	00
9	BARELL DISTORTION	-2	6	BARELL DISTORTION	-3
DG [720P OVER1]			DH [720P UNDER]		
1	HORIZONTAL SIZE	45	1	HORIZONTAL SIZE	-40
2	VERTICAL SIZE	110	2	VERTICAL SIZE	-6
3	HORIZONTAL SHIFT	140	3	HORIZONTAL SHIFT	00
4	VERTICAL SHIFT	120	4	VERTICAL SHIFT	00
5	SIDE PIN CUSHION	30	5	SIDE PIN CUSHION	00
6	CORNER CORRECT	126	6	CORNER CORRECT	00
7	PARALLELOGRAM	128	7	PARALLELOGRAM	00
8	TRAPEZOID	128	8	TRAPEZOID	00
9	BARELL DISTORTION	125	6	BARELL DISTORTION	00

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
DI [720P OVER2]			DJ [1080i OVER1]		
1	HORIZONTAL SIZE	25	1	HORIZONTAL SIZE	5
2	VERTICAL SIZE	5	2	VERTICAL SIZE	110
3	HORIZONTAL SHIFT	1	3	HORIZONTAL SHIFT	145
4	VERTICAL SHIFT	00	4	VERTICAL SHIFT	120
5	SIDE PIN CUSHION	00	5	SIDE PIN CUSHION	00
6	CORNER CORRECT	00	6	CORNER CORRECT	128
7	PARALLELOGRAM	00	7	PARALLELOGRAM	128
8	TRAPEZOID	00	8	TRAPEZOID	125
9	BARELL DISTORTION	00	6	BARELL DISTORTION	128
DK [1080i UNDER]			DL [1080i OVER2]		
1	HORIZONTAL SIZE	-25	1	HORIZONTAL SIZE	20
2	VERTICAL SIZE	-10	2	VERTICAL SIZE	5
3	HORIZONTAL SHIFT	00	3	HORIZONTAL SHIFT	00
4	VERTICAL SHIFT	00	4	VERTICAL SHIFT	00
5	SIDE PIN CUSHION	-3	5	SIDE PIN CUSHION	00
6	CORNER CORRECT	00	6	CORNER CORRECT	-2
7	PARALLELOGRAM	00	7	PARALLELOGRAM	00
8	TRAPEZOID	-4	8	TRAPEZOID	2
9	BARELL DISTORTION	-2	6	BARELL DISTORTION	-2
DM [V-LINEAR, FOCUS]			DN [ROTATION, PURITY]		
1	VERTICAL LINEARITY 1	129	1	ROTATION	128
2	VERTICAL LINEARITY 2	129	2	PURITY	128
3	FOCUS 1	128			
4	VERTICAL LINEARITY 1	128			
5	VERTICAL LINEARITY 2	128			
6	FOCUS 1	128			
7	VERTICAL LINEARITY 1	128			
8	VERTICAL LINEARITY 2	128			
9	FOCUS 1	128			
10	VERTICAL LINEARITY 1	128			
11	VERTICAL LINEARITY 2	128			
12	FOCUS 1	128			
13	VERTICAL LINEARITY 1	128			
14	VERTICAL LINEARITY 2	128			
15	FOCUS 1	128			

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
DO [COMMON]			DP [ASPECT]		
1	HORIZONTAL SIZE	30	1	VERTICAL SIZE	-28
2	VERTICAL SIZE	-25	2	VERTICAL POSITION	00
3	HORIZONTAL SHIFT	00	3	SIDE PIN CUSHION	00
4	VERTICAL SHIFT	-16	4	VERTICAL SIZE	28
5	SIDE PIN CUSHION	40	5	VERTICAL POSITION	00
6	CORNER CORRECT	00	6	SIDE PIN CUSHION	-8
7	PARALLELOGRAM	4	7	VERTICAL SIZE	23
8	TRAPEZOID	6	8	VERTICAL POSITION	3
9	BARELL DISTORTION	00	9	SIDE PIN CUSHION	3
10	VERTICAL LINEARITY 1	9	10	VERTICAL SIZE	29
11	VERTICAL LINEARITY 2	-8	11	VERTICAL POSITION	1
12	FOCUS 1	00	12	SIDE PIN CUSHION	3
			13	VERTICAL SIZE	23
			14	VERTICAL POSITION	1
			15	SIDE PIN CUSHION	2
			16	VERTICAL SIZE	30
			17	VERTICAL POSITION	2
			18	SIDE PIN CUSHION	3
			19	VERTICAL SIZE	-28
			20	VERTICAL POSITION	00
			21	SIDE PIN CUSHION	00
DQ [INPUT B UNDER]					
1	HORIZONTAL SIZE	-36			
2	VERTICAL SIZE	-13			
3	HORIZONTAL SHIFT	00			
4	VERTICAL SHIFT	00			
5	SIDE PIN CUSHION	00			
6	CORNER CORRECT	00			
7	PARALLELOGRAM	00			
8	TRAPEZOID	00			
9	BARELL DISTORTION	00			

CPU BLOCK

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
CA [MENU]			CB [SIGNAL]		
1	MENU DISP TIME	00	1	CONTRAST MIN	-50
2	MENU COLOR	00	2	CONTRAST MAX	20
3	MENU ITEM COLOR	00	3	BRIGHT MIN	-10
4	MANU CURSOR COL.	00	4	BRIGHT MAX	-10
5	MENU HELP COLOR	00	5	CHROMA MIN	-20
6	MENU TITLE COLOR	00	6	CHROMA MAX	10
7	MENU WARNIG COL.	00	7	PHASE MIN	-30
8	MENU STATUS COL.	00	8	PHASE MAX	30
9	UNLOCK TIME	125	9	APPERTURE MIN	-40
10	USER MEM TIME	00	10	APPERTURE MAX	30
			11	BLUE DRIVE MIN	0
CC [DEFLECTION]			12	BLUE DRIVE MAX	255
1	H SIZE MIN	-125	13	RED DRIVE MIN	0
2	H SIZE MAX	120	14	RED DRIVE MAX	255
3	V SIZE MIN	80	15	GREEN DRIVE MIN	0
4	V SIZE MAX	160	16	GREEN DRIVE MAX	255
5	H SHIFT MIN	88	17	BLUE CUTOFF MIN	0
6	H SHIFT MAX	168	18	BLUE CUTOFF MAX	255
7	V SHIFT MIN	68	19	BLUE CUTOFF MIN	0
8	V SHIFT MAX	240	20	BLUE CUTOFF MAX	255
9	SIDE PIN MIN	-80			
10	SIDE PIN MAX	80			
11	PARA. MIN	68			
12	PARA. MAX	188			
13	TRAPE. MIN	68			
14	TRAPE. MAX	188			
15	BARREL. MIN	68			
16	BARREL. MAX	188			

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
CD [POWER]			CF		
1	15K NO SYNC OSD V-POSI	145	1	DIST FLAG 0:JP, 1:US	0
2	NO SYNC V-SIZE(40Hz)	110	2	INPUT MODE	1
3	NO SYNC V-POSI(40Hz)	90	3	POWER CONDITON	1
4	V READ RESET TIME	62	4	VOLUME MUTING	0
5	COMP. 15k FV	00	5	VOLUME	3
6	COMP. HD FV	00	6	COLOR TEMP.	0
7	COMP. ED FV	00	7	CONTRAST VOLUME	138
8	COMP. 720p FV	00	8	BRIGHT VOLUME	138
9	INPUT B 15k FV	00	9	CHROMA VOLUME	137
10	SIGNAL CHANGE TIME	64	10	PHASE VOLUME	138
			11	WHITE BACK ON/OFF	0
CE [etc.]			CG		
1	HORI. FREQ ERROR	-125	1	I2C SIG BUS ERROR	0
2	VERT. FREQ ERROR	120	2	I2C ROM BUS ERROR	0
3	STATUS DISPLAY TIME	30	3	DDC ROM BUS ERROR	0
4	S DET LOCK TIME	3	4	X-RAY DETECT	0
5	OSD DISP X 15k/60 UPPER	1	5	OCP DETECT	0
6	OSD DISP X 15k/50 LOWER	13	6	V OFF DETECT	0
7	OSD DISP Y 15k/50 UPPER	0	7	V SYNC	0
8	OSD DISP Y 15k/50 LOWER	66	8	DEF PRO	0
9	OSD DISP X 15k/60 UPPER	1	9	RESERVD	0
10	OSD DISP X 15k/60 LOWER	0	10	MEDICAL FLAG	0
11	OSD DISP Y 15k/60 UPPER	0	11	SINPLE FUNCTION	0
12	OSD DISP Y 15k/60 LOWER	33	12	RESERVED	0
13	OSD DISP X HD UPPER	0			
14	OSD DISP X HD LOWER	148			
15	OSD DISP Y HD UPPER	0			
16	OSD DISP Y HD LOWER	89			
17	V OFF BRIGHT	120			
18	V OUT OF RA	32			

AN5390 ADJ. BLOCK

SERVICE Number	ITEMS	INITIAL SETTING VALUE	SERVICE Number	ITEMS	INITIAL SETTING VALUE
AZ [AN 5390]					
1	COLOR CTRL MAIN	52	25	GAMMA LEVEL	15
2	TINT CTRL MAIN	66	26	WHITE LETTER SLICE	0
3	CONTRAST CTRL MAIN	30	27	ABL START	136
4	BRIGHT CTRL MAIN	128	28	ACL START	136
5	COLOR CTRL SUB	64	29	DAC1	20
6	TINT CTRL SUB	64	30	DAC2	27
7	CONTRAST SUB	64	31	SW	0
8	BRIGHT SUB	128			
9	DRIVE R	128			
10	DRIVE B	128			
11	CUTOFF R	128			
12	CUTOFF G	128			
13	CUTOFF B	128			
14	CUTOFF PEDESTAL	10			
15	COLOR TEMP. R	128			
16	COLOR TEMP. B	128			
17	B-Y AXIS GAIN MAIN	37			
18	B-Y DEG MAIN	0			
19	B-Y AXIS GAIN SUB	32			
20	B-Y DEG SUB	16			
21	G-Y MATRIX	6			
22	AUTO CUTOFF etc..	167			
23	MONOTONE CTRL	208			
24	BALCK LEVEL	136			

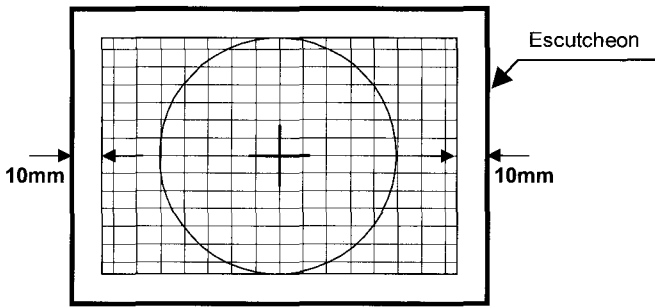
■ ADJUSTMENT

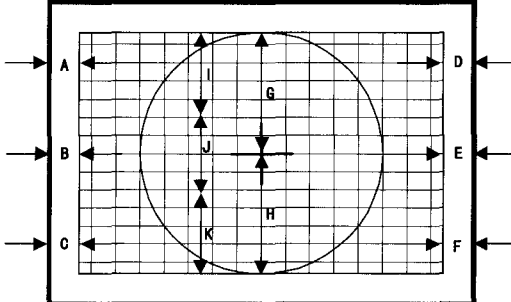
B1 power supply adjustment	
Test equipment	Signal generator(Cross-hatch pattern) DC voltmeter
Test points	TP-B1(TP-91):S1 connector ① pin [SUB DEF PWB] TP-E(GND):S1 connector ④ pin [SUB DEF PWB]
Adjustment locations	
1. Set power supply voltage to 120V. 2. Input the VGA480 cross-hatch pattern signal to the INPUT C terminal, and switch RGB mode. 3. Confirm the B1 voltage that DC49V.	

High voltage check	
Test equipment	Signal generator(All black signal) High voltage meter
Test points	CRT Anode
Adjustment locations	HIGH VOLTAGE ADJUST VR [SUB DEF PWB], DO01 (H.SIZE)
1. Connect the high voltage meter to the CRT anode. 2. Set power supply voltage to 120V. 3. Input the all black signal of the 480P (31.47kHz / 60Hz) to the input A terminal. 4. Down the BRIGHT volume to black raster not to too bright. 5. Set the DO01 to 00. 6. If screen size is too big or small, then adjust the DO01, become the screen size about 95 %. 7. Adjust the HIGH VOLTAGE ADJUST VR so that the high voltage is at $27.5\text{kV} \pm 0.2\text{kV}$.	

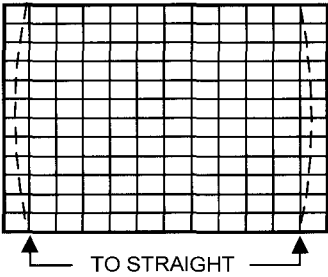
Focus adjustment	
Test equipment	Signal generator(Cross-hatch pattern)
Test points	
Adjustment locations	FOCUS VR1 (FBT UPPER VOLUME) FOCUS VR2 (FBT MIDDLE VOLUME)
1. Input the 1080i cross-hatch pattern signal to the input A terminal. 2. Adjust the FOCUS VR1 and FOCUS VR2 so that the vertical and horizontal lines be clear and in fine detail.	

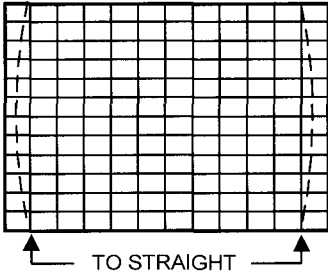
DEFLECTION CIRCUIT COMMON ADJUSTMENT TO ALL SIGNALS

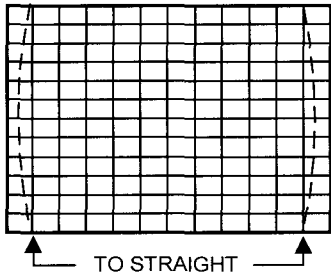
HORIZONTAL SHIFT, HORIZONTAL SIZE	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DO03 (H. SHIFT), DO01 (H. SIZE)
<ol style="list-style-type: none"> 1. Input the VGA480 line cross-hatch circle pattern signal to the input C terminal. 2. Switch to the INPUT C. 3. Adjust the DO03 to the horizontal center agree with the screen center. 4. Adjust the DO01 so that the picture size falls within the place of 10mm or more from both sides of the escutcheon. 	
	

VERTICAL SHIFT, SIDE PIN, TRAPEZOID, PARALLELOGRAM, V LIN, BARREL	
Test equipment	Signal generator(Cross-hatch circle pattern)
Test points	
Adjustment locations	DO04(V SHIFT), DO05(SIDE PIN) DO07(PARALLELOGRAM), DO08(TRAPEZOID), DO09(BARREL) DO10(V LINEARITY), DO11(V LINEARITY)
<ol style="list-style-type: none"> 1. Input the cross-hatch circle pattern of the VGA480 line cross-hatch circle pattern signal to the input C terminal. 2. Adjust the DO04 to vertical center of the input signal agree with the CRT center. 3. Adjust the DO05 to correct the side pin distortion. 4. Adjust the DO07 to correct the parallelogram distortion . 5. Adjust the DO08 to correct the trapezoidal distortion. 6. Adjust the DO09 to correct the barrel distortion. 7. Adjust in the above steps to equalize the length of A~F shown in the right figure. 8. Then adjust the DO10 to equalize the length of the G and H. 9. Adjust the DO11 to equalize the length of the I, J and K. 	
	

VGA (Fv : 45Hz ~ 90Hz) VERTICAL LINEARITY ADJUSTMENT

VERTICAL LINEARITY (Fv : 45 ~ 55Hz)	
Test equipment	Signal generator(Cross-hatch pattern)
Test points	
Adjustment locations	DM01(V LINEARITY1), DM02(V LINEARITY 2)
<div>1. Input the VGA cross-hatch pattern signal of the 26kHz / 50Hz to the input C terminal.</div> <div>2. Confirm the vertical linearity about the screen top-bottom and center, and if illegal, adjust the DM01 to correct the vertical linearity.</div> <div>3. Confirm the vertical linearity about the screen half of the upper and lower, and if illegal, adjust the DM02 to correct the vertical linearity.</div>	
	

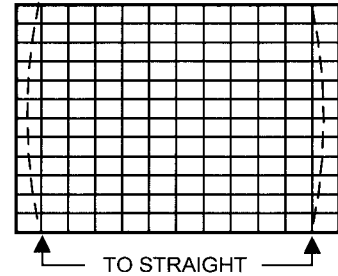
VERTICAL LINEARITY (Fv : 55 ~ 65Hz)	
Test equipment	Signal generator(Cross-hatch pattern)
Test points	
Adjustment locations	DM04(V LINEARITY1), DM05(V LINEARITY 2)
<div>1. Input the VGA cross-hatch pattern signal of the 31kHz / 60Hz to the input C terminal.</div> <div>2. Confirm the vertical linearity about the screen top-bottom and center, and if illegal, adjust the DM04 to correct the vertical linearity.</div> <div>3. Confirm the vertical linearity about the screen half of the upper and lower, and if illegal, adjust the DM05 to correct the vertical linearity.</div>	
	

VERTICAL LINEARITY (Fv : 65 ~ 75Hz)	
Test equipment	Signal generator(Cross-hatch pattern)
Test points	
Adjustment locations	DM07(V LINEARITY1), DM08(V LINEARITY 2)
<div>1. Input the VGA cross-hatch pattern signal of the 36kHz / 70Hz to the input C terminal.</div> <div>2. Confirm the vertical linearity about the screen top-bottom and center, and if illegal, adjust the DM07 to correct the vertical linearity.</div> <div>3. Confirm the vertical linearity about the screen half of the upper and lower, and if illegal, adjust the DM08 to correct the vertical linearity.</div>	
	

VERTICAL LINEARITY (Fv : 75 ~ 85Hz)

Test equipment	Signal generator(Cross-hatch pattern)
Test points	
Adjustment locations	DM10(V LINEARITY1), DM11(V LINEARITY 2)

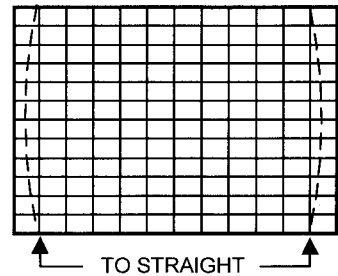
1. Input the VGA cross-hatch pattern signal of the 42kHz / 80Hz to the input C terminal.
2. Confirm the vertical linearity about the screen top-bottom and center, and if illegal, adjust the DM10 to correct the vertical linearity.
3. Confirm the vertical linearity about the screen half of the upper and lower, and if illegal, adjust the DM11 to correct the vertical linearity.



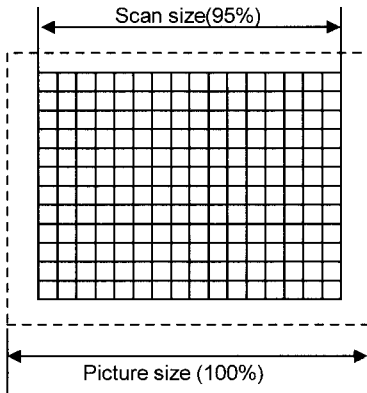
VERTICAL LINEARITY (Fv : 85 ~ 95Hz)

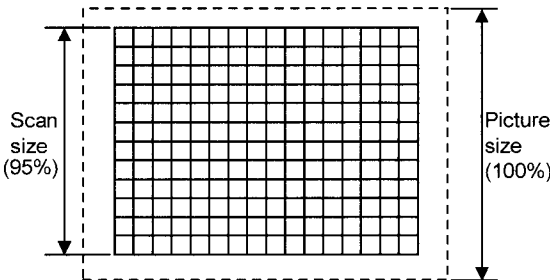
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DM13(V LINEARITY1), DM14(V LINEARITY 2)

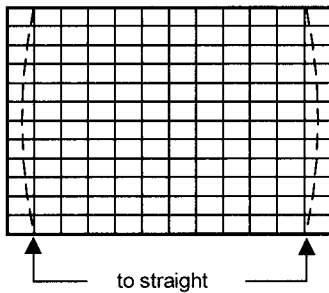
1. Input the VGA cross-hatch pattern signal of the 47kHz / 90Hz to the input C terminal.
2. Confirm the vertical linearity about the screen top-bottom and center, and if illegal, adjust the DM13 to correct the vertical linearity.
3. Confirm the vertical linearity about the screen half of the upper and lower, and if illegal, adjust the DM14 to correct the vertical linearity.



NTSC DEFLECTION ADJUSTMENT

NTSC 4 : 3 H.CENTER, H.SHIFT	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DA03 (H. SHIFT), DA01 (H. SIZE)
<ol style="list-style-type: none"> 1. Set the scan size to the OVER, and set the ASPECT to 4 : 3 in the MENU screen. 2. Input the cross-hatch pattern signal of the NTSC to the input B terminal. 3. Set the BRIGHT and CONTRAST VR on the front panel to the click position. 4. Adjust the DA03 to the horizontal center of input signal agree with the CRT screen center. 5. Adjust the horizontal screen size to 95% over scan condition with the DA01. 	
	

NTSC 4 : 3 V.CENTER, V.SHIFT	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DA04 (V. SHIFT), DA02 (V. SIZE)
<ol style="list-style-type: none"> 1. Set the scan size to the OVER, and set the ASPECT to 4 : 3 in the MENU screen. 2. Input the cross-hatch pattern signal of the NTSC to the input B terminal. 3. Set the BRIGHT and CONTRAST VR on the front panel to the click position. 4. Adjust the DA04 to the vertical center of input signal agree with the CRT screen center. 5. Adjust the vertical screen size to 95% over scan condition with the DA02. 	
	

NTSC 4 : 3 SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DA05 (SIDE PIN), DA08 (TRAPEZOID), DA07 (PARALLELOGRAM)
<ol style="list-style-type: none"> 1. Set the scan size to the OVER, and set the ASPECT to 4 : 3 in the MENU screen. 2. Input the cross-hatch pattern signal of the NTSC to the input B terminal. 3. If the vertical lines are distorted in the side pircushion condition, adjust the DA05 to 2nd vertical lines from the screen edges become straight. 4. Confirm the trapezoidal distortion. If illegal, adjust the DA08 to correct the distortion. 5. Confirm the parallelogram distortion. If illegal, adjust the DA07 to correct the distortion. 	
	

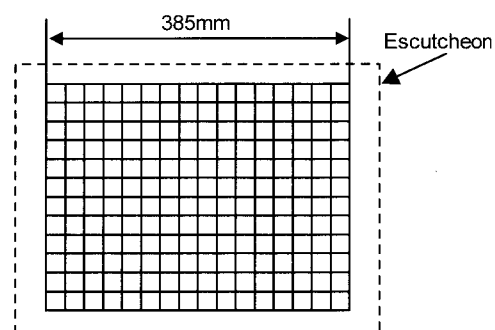
NTSC 4 : 3 UNDER SCAN H.SHIFT H.SIZE

Test equipment	Signal generator(Cross-hatch pattern)
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Test points	
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Adjustment locations	DQ03(H SHIFT), DQ01(H SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch pattern signal of the NTSC to the INPUT B terminal.
3. Set the BRIGHT and CONTRAST VR on the front panel to the click position.
4. Adjust the DQ03 to the horizontal center of the input signal agree with the CRT screen center.
5. Adjust the horizontal screen size to 385mm with the DQ01.

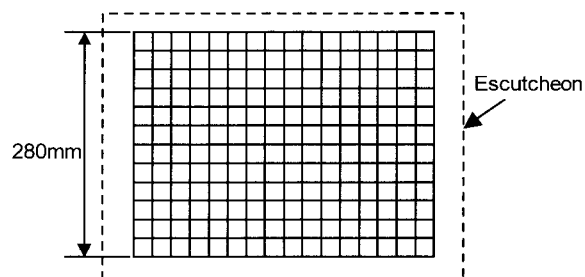
**NTSC 4 : 3 UNDER SCAN V.CENTER, V.SHIFT**

Test equipment	Signal generator(Cross-hatch pattern)
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Test points	
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Adjustment locations	DQ04(V SHIFT), DQ02(V SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch pattern signal of the NTSC to the INPUT B terminal.
3. Set the BRIGHT and CONTRAST VR on the front panel to the click position.
4. Adjust the DQ04 to the vertical center of the input signal agree with the CRT screen center.
5. Adjust the vertical screen size to 280mm with the DQ02.

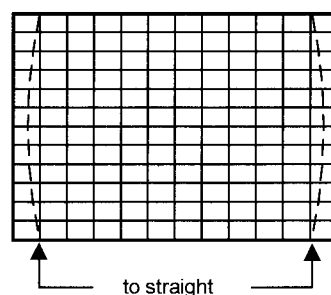
**NTSC 4 : 3 UNDER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM**

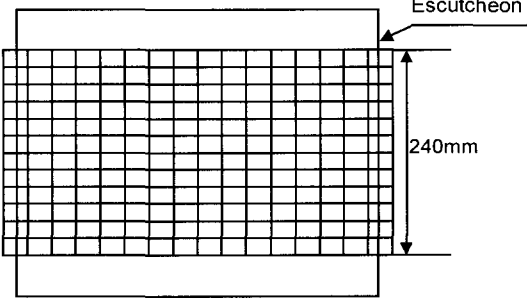
Test equipment	Signal generator(Cross-hatch pattern)
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Test points	
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Adjustment locations	DQ05(SIDE PIN)
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1. Set the scan size to the UNDER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch signal of the NTSC to the INPUT B terminal.
3. If the vertical lines are distorted in the side pincushion condition, adjust the DQ05 to 2nd vertical lines from the screen edges become straight.



NTSC 16 : 9 V.SIZE, V.SHIFT	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DP02 (V.POSITION), DP01 (V.SIZE)
<div>1. Set the ASPECT to 16 : 9 in the MENU screen..</div> <div>2. Input the NTSC creoss-hatch pattern signal to input B terminal.</div> <div>3. Adjust the vertical center of the input signal to agree with the CRT center with DP02.</div> <div>4. Adjust the vertical scan size to 240mm with the DP01.</div> <div></div>	

NTSC 16 : 9 V.SIZE, V.SHIFT	
Test equipment	Signal generator (Black and white pattern)
Test points	
Adjustment locations	DP03 (SIDE PIN)
<div>1. Set the ASPECT to 16 : 9 in the MENU screen..</div> <div>2. Input the NTSC black and white signal to input B terminal.</div> <div>If the vertical lines are distorted in the side pincushion condition, adjust the DP03 to 2nd vertical lines from the screen edges become straight.</div>	

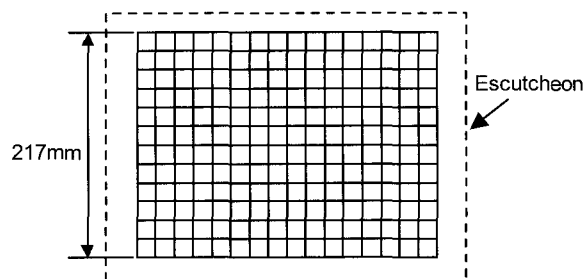
NTSC 16 : 9 UNDER SCAN V.CENTER, V.SHIFT

Test equipment	Signal generator (Cross-hatch pattern)
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Test points	
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Adjustment locations	DP20 (V SHIFT), DP19(V SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch pattern signal of the NTSC to the INPUT B terminal.
3. Set the BRIGHT and CONTRAST VR on the front panel to the click position.
4. Adjust the DP20 to the vertical center of the input signal agree with the CRT screen center.
5. Adjust the vertical screen size to 217mm with the DP19.

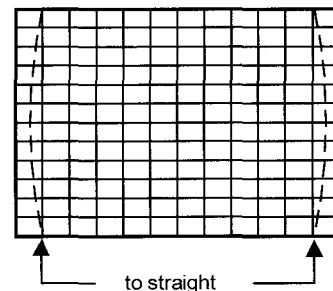
**NTSC 16 : 9 UNDER SCAN SIDE PINCUSHION**

Test equipment	Signal generator (Cross-hatch pattern)
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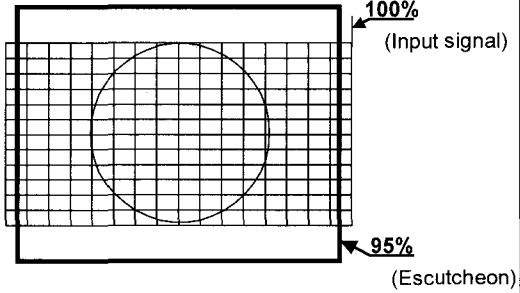
Test points	
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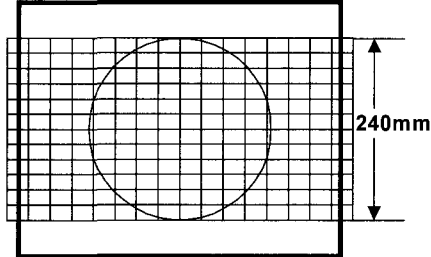
Adjustment locations	DP21 (SIDE PIN)
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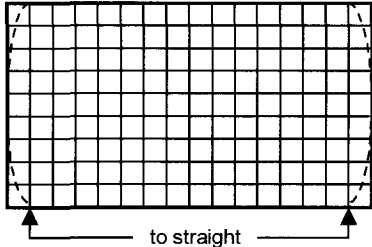
1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch pattern signal of the NTSC to the INPUT B terminal.
3. If the vertical lines are distorted in the side pincushion condition, adjust the DP21 to 2nd vertical lines from the screen edges become straight.



480i COMPONENT SIGNAL DEFLECTION ADJUSTMENT

480i 16 : 9 OVER SCAN H.CENTER, H.SIZE	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DB03 (H. SHIFT), DB01 (H. SIZE)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch circle pattern of the 480i component Y signal to the input A terminal.</div> <div>3. Adjust the DB03 to correct the horizontal center agree with the CRT screen center.</div> <div>4. Adjust the horizontal screen size to 95% over scan condition with the DB01.</div>	
	

480i 16 : 9 OVER SCAN V.CENTER, V.SHIFT	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DB04 (V. SHIFT), DB02 (V. SIZE)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in MENU the screen.</div> <div>2. Input the cross-hatch circle pattern of the 480i component Y signal to the input A terminal.</div> <div>3. Adjust the DB04 to correct the vertical center agree with the CRT screen center.</div> <div>4. Adjust the vertical scan size to 240mm with the DB02.</div>	
	

480i 16 : 9 OVER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DB05 (SIDE PIN), DB08 (TRAPEZOID), DB07 (PARALLELOGRAM)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch pattern of the 480i component Y signal to the input A terminal.</div> <div>3. If the vertical lines are distorted in the side pincushion condition, adjust the DB05 to 2nd vertical lines from the screen edges become straight.</div> <div>4. Confirm the trapezoidal distortion. If illegal, adjust the DB08 to correct the distortion.</div> <div>5. Confirm the parallelogram distortion. If illegal, adjust the DB07 to correct the distortion.</div>	
	

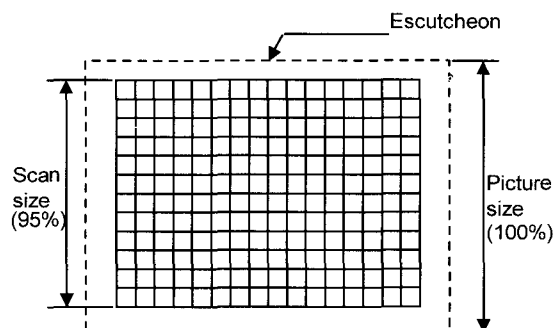
480i 4 : 3 OVER SCAN V.SIZE, V.SHIFT

Test equipment	Signal generator(Cross-hatch circle pattern)
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Test points	
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Adjustment locations	DP05 (V.POSITION), DP04 (V.SIZE)
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1. Set the scan size to the OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch circle pattern of the 480i component Y signal to the input A terminal.
3. Adjust the vertical center to agree with the CRT center with DP05.
4. Adjust the vertical screen size to 95% over scan condition with the DP04.

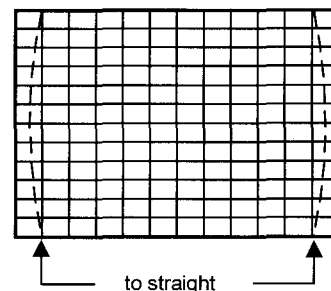
**480i 4 : 3 OVER SCAN SIDE PINCUSHION**

Test equipment	Signal generator(Cross-hatch pattern)
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Test points	
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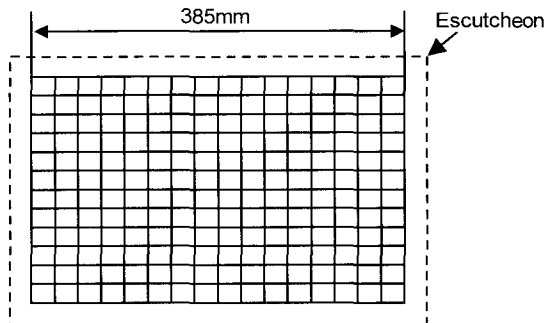
Adjustment locations	DP06 (SIDE PIN)
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1. Set the scan size to the OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch pattern of the 480i component Y signal to the input A terminal.
3. If the vertical lines are distorted in the side pincushion condition, adjust the DP06 to 2nd vertical lines from the screen edges become straight.

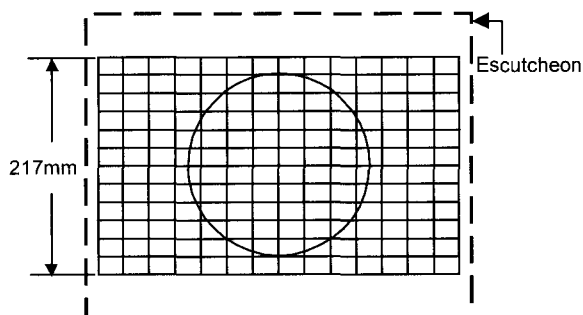


480i 16 : 9 UNDER SCAN H.CENTER, H.SHIFT

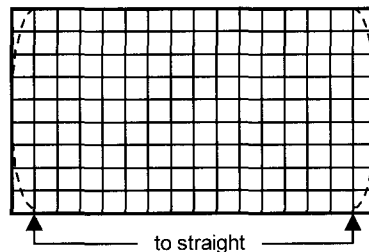
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DC03 (H.SHIFT), DC01 (H.SIZE)
<ol style="list-style-type: none"> 1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen. 2. Input the cross-hatch circle pattern of the 480i component Y signal to the input A terminal. 3. Adjust the DC03 to correct the horizontal center agree with the CRT screen center. 4. Adjust the horizontal screen size to 385mm with the DC01. 	

**480i 16 : 9 UNDER SCAN V.CENTER, V.SHIFT**

Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DC04 (V. SHIFT), DC02 (V. SIZE)
<ol style="list-style-type: none"> 1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen. 2. Input the cross-hatch circle pattern of the 480i component Y signal to the input A terminal. 3. Adjust the DC04 to correct the vertical center agree with the CRT screen center. 4. Adjust the vertical scan size to 217mm with the DC02. 	

**480i 16 : 9 UNDER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM**

Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DC05 (SIDE PIN), DC08 (TRAPEZOID), DC07 (PARALLELOGRAM)
<ol style="list-style-type: none"> 1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen. 2. Input the cross-hatch pattern of the 480i component Y signal to the input A terminal. 3. If the vertical lines are distorted in the side pincushion condition, adjust the DC05 to 2nd vertical lines from the screen edges become straight. 4. Confirm the trapezoidal distortion. If illegal, adjust the DC08 to correct the distortion. 5. Confirm the parallelogram distortion. If illegal, adjust the DC07 to correct the distortion. 	



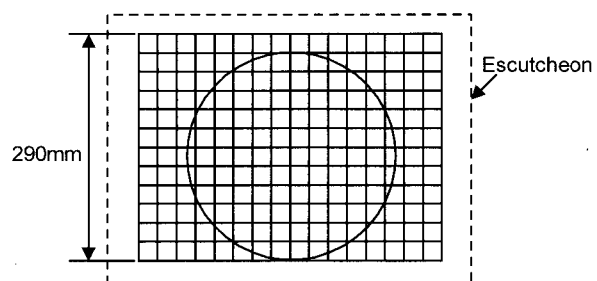
480i 4 : 3 UNDER SCAN V.SIZE, V.SHIFT

Test equipment	Signal generator (Cross-hatch circle pattern)
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Test points	
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Adjustment locations	DP08 (V.POSITION), DP07 (V.SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch circle pattern of the 480i component Y signal to the input A terminal.
3. Adjust the vertical center to agree with the CRT center with DP08.
4. Adjust the vertical screen size to 290mm with the DP07.

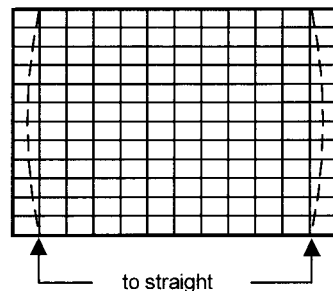
**480i 4 : 3 UNDER SCAN SIDE PINCUSHION**

Test equipment	Signal generator (Cross-hatch pattern)
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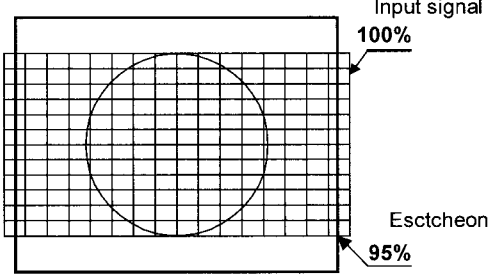
Test points	
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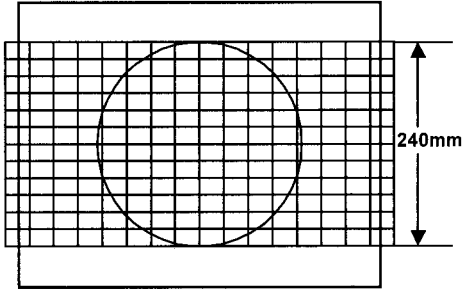
Adjustment locations	DP09 (SIDE PIN)
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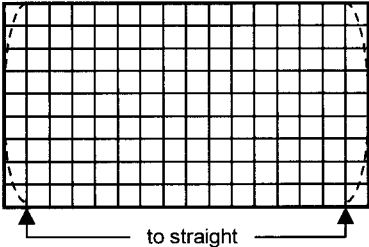
1. Set the scan size to the UNDER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch pattern of the 480i component Y signal to the input A terminal.
3. If the vertical lines are distorted in the side pincushion condition, adjust the DP09 to 2nd vertical lines from the screen edges become straight.



480P COMPONENT SIGNAL DEFLECTION ADJUSTMENT

480P 16 : 9 OVER SCAN H.CENTER, H.SHIFT	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DD03 (H. POSITION), DD01 (H. SIZE)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch circle pattern of the 480P component Y signal to the input A terminal.</div> <div>3. Adjust the DD03 to correct the horizontal center agree with the CRT screen center.</div> <div>4. Adjust the horizontal screen size to 95% over scan condition with the DD01.</div>	
	

480P 16 : 9 OVER SCAN V.CENTER, V.SHIFT	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DD04 (V.SHIFT), DD02 (V.SIZE)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch circle pattern(with the circle pattern) of the 480P component Y signal to the input A terminal.</div> <div>3. Adjust the DD04 to correct the vertical center agree with the CRT screen center.</div> <div>4. Adjust the vertical scan size to 240mm with the DD02.</div>	
	

480P 16 : 9 OVER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DD05 (SIDE PIN), DD08 (TRAPEZOID), DD07 (PARALLELOGRAM)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch pattern of the 480P component Y signal to the input A terminal.</div> <div>3. If the vertical lines are distorted in the side pincushion condition, adjust the DD05 to 2nd vertical lines from the screen edges become straight.</div> <div>4. Confirm the trapezoidal distortion. If illegal, adjust the DD08 to correct the distortion.</div> <div>5. Confirm the parallelogram distortion. If illegal, adjust the DD07 to correct the distortion.</div>	
	

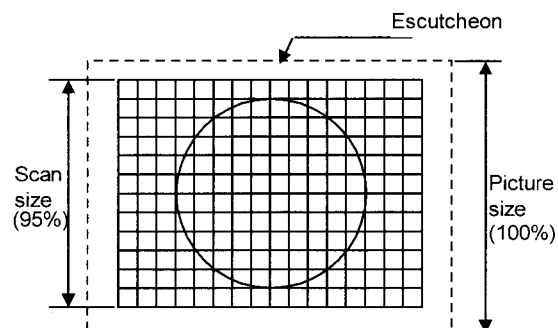
480P 4 : 3 OVER SCAN V.SIZE, V.SHIFT

Test equipment	Signal generator (Cross-hatch circle pattern)
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Test points	
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Adjustment locations	DP11 (V.POSITION), DP10 (V.SIZE)
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1. Set the scan size to the OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch circle pattern of the 480P component Y signal to the input A terminal.
3. Adjust the vertical center to agree with the CRT center with DP11.
4. Adjust the vertical screen size to 95% over scan condition with the DP10.

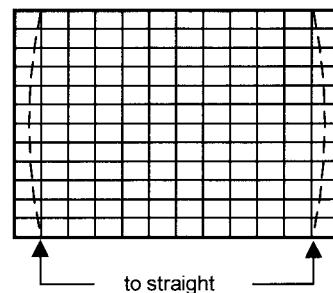
**480P 4 : 3 OVER SCAN SIDE PINCUSHION**

Test equipment	Signal generator (Cross-hatch pattern)
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Test points	
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Adjustment locations	DP12 (SIDE PIN)
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1. Set the scan size to the OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Input the cross-hatch pattern of the 480P component Y signal to the input A terminal.
3. If the vertical lines are distorted in the side pincushion condition, adjust the DP12 to 2nd vertical lines from the screen edges become straight.



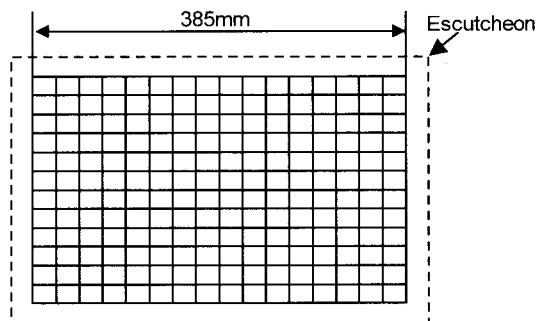
480P 16 : 9 UNDER SCAN H.CENTER, H.SHIFT

Test equipment	Signal generator(Cross-hatch circle pattern)
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Test points	
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Adjustment locations	DE03 (H.SHIFT), DE01 (H.SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch circle pattern of the 480P component Y signal to the input A terminal.
3. Adjust the DE03 to correct the horizontal center agree with the CRT screen center.
4. Adjust the horizontal screen size to 385mm with the DE01.

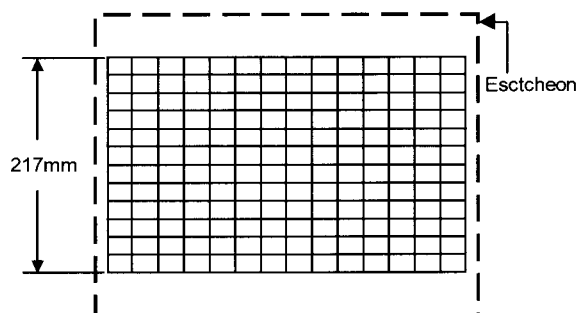
**480P 16 : 9 UNDER SCAN V.CENTER, V.SHIFT**

Test equipment	Signal generator(Cross-hatch circle pattern)
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Test points	
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Adjustment locations	DE04 (V. SHIFT), DE02 (V. SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch circle pattern of the 480P component Y signal to the input A terminal.
3. Adjust the DE04 to correct the vertical center agree with the CRT screen center.
4. Adjust the vertical scan size to 217mm with the DE02.

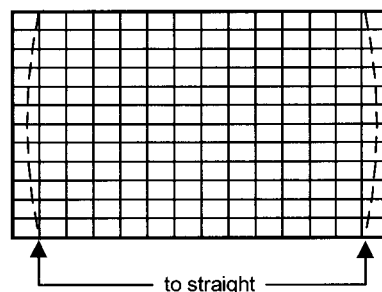
**480P 16 : 9 UNDER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM**

Test equipment	Signal generator (Cross-hatch pattern)
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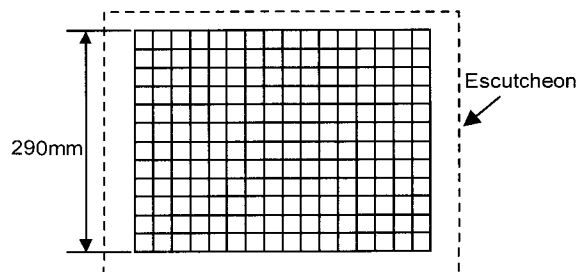
Test points	
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Adjustment locations	DE05 (SIDE PIN), DE08 (TRAPEZOID), DE07 (PARALLELOGRAM)
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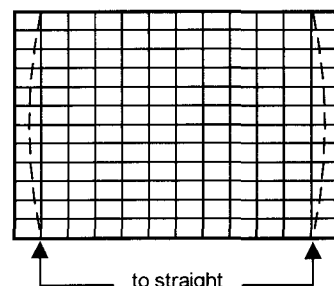
1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch pattern of the 480P component Y signal to the input A terminal.
3. If the vertical lines are distorted in the side pincushion condition, adjust the DE05 to 2nd vertical lines from the screen edges become straight.
4. Confirm the trapezoidal distortion. If illegal, adjust the DE08 to correct the distortion.
5. Confirm the parallelogram distortion. If illegal, adjust the DE07 to correct the distortion.



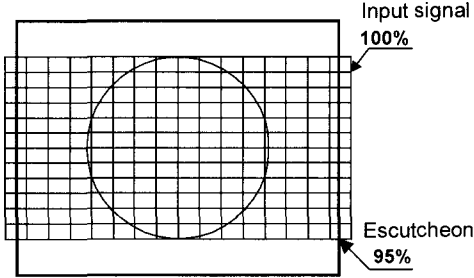
480P 4 : 3 UNDER SCAN V.SIZE, V.SHIFT	
Test equipment	Signal generator(Cross-hatch circle pattern)
Test points	
Adjustment locations	DP14 (V.POSITION), DP13 (V.SIZE)
<ol style="list-style-type: none"> 1.Set the scan size to the UNDER, and set the ASPECT to 4 : 3 in the MENU screen. 2.Input the cross-hatch circle pattern of the 480P component Y signal to the input A terminal. 3.Adjust the vertical center to agree with the CRT center with DP14. 4.Adjust the vertical screen size to 290mm with the DP13. 	

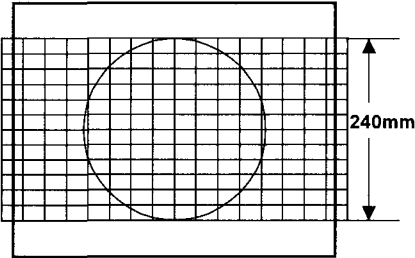


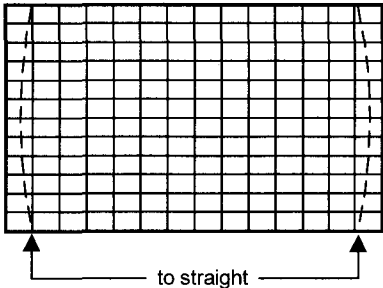
480P 4 : 3 UNDER SCAN SIDE PINCUSHION	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DP15 (SIDE PIN)
<ol style="list-style-type: none"> 1. Set the scan size to the UNDER, and set the ASPECT to 4 : 3 in the MENU screen. 2. Input the cross-hatch pattern of the 480P component Y signal to the input A terminal. 3. If the vertical lines are distorted in the side pincushion condition, adjust the DP15 to 2nd vertical lines from the screen edges become straight. 	



720P COMPONENT DEFLECTION ADJUSTMENT

720P 16 : 9 OVER SCAN H.CENTER, H.SHIFT	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DG03 (H.SHIFT), DG01 (H. SIZE)
<div>1. Set the scan size to the OVER and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch circle pattern of the 720P component Y signal to the input A terminal.</div> <div>3. Adjust the DG03 to correct the horizontal center agree with the CRT screen center.</div> <div>4. Adjust the horizontal screen size to 95% over scan condition with the DG01.</div>	
	

720P 16 : 9 OVER SCAN V.CENTER, V.SHIFT	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DG04 (V. SHIFT), DG02 (V. SIZE)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch pattern(with the circle pattern) of the 720P component Y signal to the input A terminal.</div> <div>3. Adjust the DG04 to correct the vertical center agree with the CRT screen center.</div> <div>4. Adjust the vertical scan size to 240mm with the DG02.</div>	
	

720P 16 : 9 OVER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DG05 (SIDE PIN), DG08 (TRAPEZOID), DG07 (PARALLELOGRAM)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch pattern of the 720P component Y signal to the input A terminal.</div> <div>3. If the vertical lines are distorted in the side pincushion condition, adjust the DG05 to 2nd vertical lines from the screen edges become straight.</div> <div>4. Confirm the trapezoidal distortion. If illegal, adjust the DG08 to correct the distortion.</div> <div>5. Confirm the parallelogram distortion. If illegal, adjust the DG07 to correct the distortion.</div>	
	

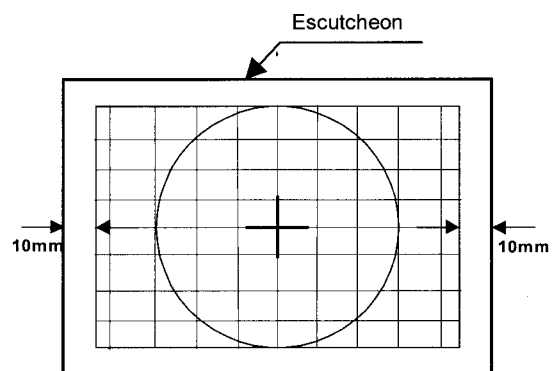
720P 16 : 9 UNDER SCAN H.CENTER, H.SHIFT

Test equipment	Signal generator (Cross-hatch circle pattern)
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Test points	
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Adjustment locations	DH03 (H.SHIFT), DH01 (H.SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch circle pattern of the 720P component Y signal to the input A terminal.
3. Adjust the DH03 to correct the horizontal center agree with the CRT screen center.
4. Adjust the DH01 so that the picture size falls within the place of 10mm or more from both sides of the escutcheon.

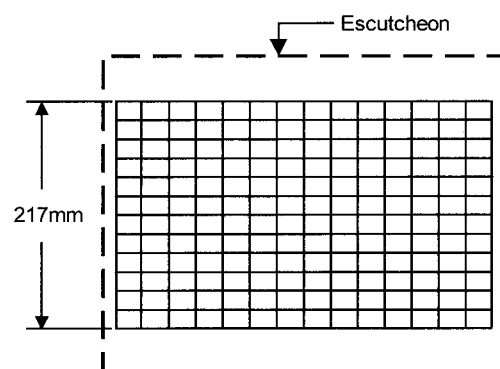
**720P 16 : 9 UNDER SCAN V.CENTER, V.SHIFT**

Test equipment	Signal generator (Cross-hatch circle pattern)
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Test points	
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Adjustment locations	DH04 (V. SHIFT), DH02 (V. SIZE)
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1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch circle pattern of the 720P component Y signal to the input A terminal.
3. Adjust the DH04 to correct the vertical center agree with the CRT screen center.
4. Adjust the vertical scan size to 217mm with the DH02.

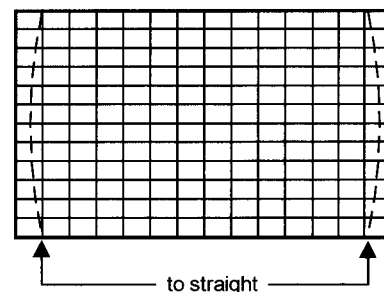
**720P 16 : 9 UNDER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM**

Test equipment	Signal generator (Cross-hatch pattern)
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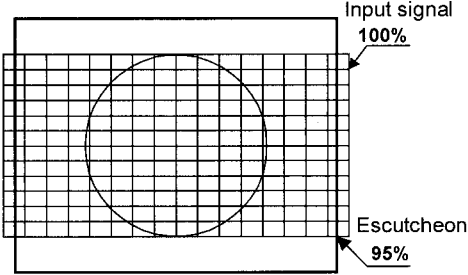
Test points	
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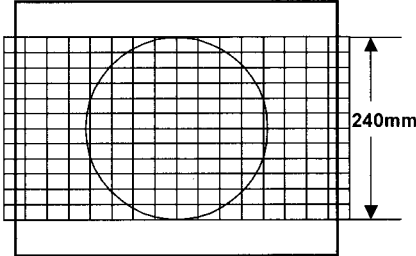
Adjustment locations	DH05 (SIDE PIN), DH08 (TRAPEZOID), DH07 (PARALLELOGRAM)
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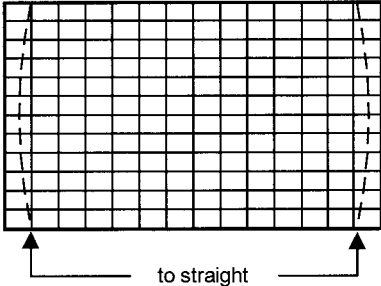
1. Set the scan size to the UNDER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the cross-hatch pattern of the 720P component Y signal to the input A terminal.
3. If the vertical lines are distorted in the side pincushion condition, adjust the DH05 to 2nd vertical lines from the screen edges become straight.
4. Confirm the trapezoidal distortion. If illegal, adjust the DH08 to correct the distortion.
5. Confirm the parallelogram distortion. If illegal, adjust the DH07 to correct the distortion.



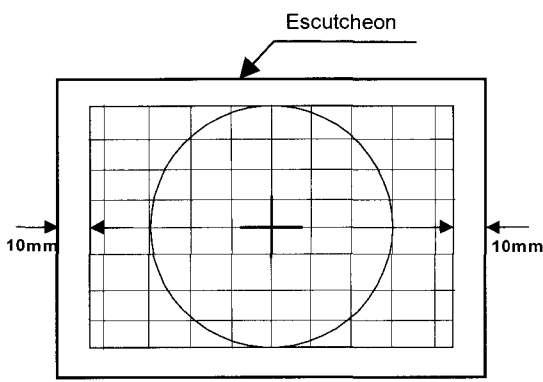
1080i COMPONENT SIGNAL DEFLECTION ADJUSTMENT

1080i 16 : 9 OVER SCAN H.CENTER, H.SHIFT	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DJ03 (H. SHIFT), DJ01 (H. SIZE)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch pattern (with the circle pattern) of the 1080i component Y signal to the input A terminal.</div> <div>3. Adjust the DJ03 to correct the horizontal center agree with the CRT screen center.</div> <div>4. Adjust the horizontal screen size to 95% over scan condition with the DJ01.</div>	
	

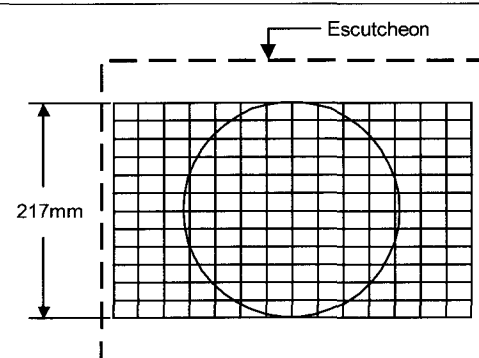
1080i 16 : 9 OVER SCAN V.CENTER, V.SHIFT	
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DJ04 (V. SHIFT), DJ02 (V. SIZE)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch circle pattern of the 1080i component Y signal to the input A terminal.</div> <div>3. Adjust the DJ04 to correct the vertical center agree with the CRT screen center.</div> <div>4. Adjust the vertical scan size to 240mm with the DJ02.</div>	
	

1080i 16 : 9 OVER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM	
Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DJ05 (SIDE PIN), DJ08 (TRAPEZOID), DJ07 (PARALLELOGRAM)
<div>1. Set the scan size to the OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the cross-hatch pattern of the 1080i component Y signal to the input A terminal.</div> <div>3. If vertical lines are distorted in side pincushion condition, adjust the DJ05 to 2nd vertical lines from the screen edges become straight.</div> <div>4. Confirm the trapezoidal distortion. If illegal, adjust the DJ08 to correct the distortion.</div> <div>5. Confirm the parallelogram distortion. If illegal, adjust the DJ07 to correct the distortion.</div>	
	

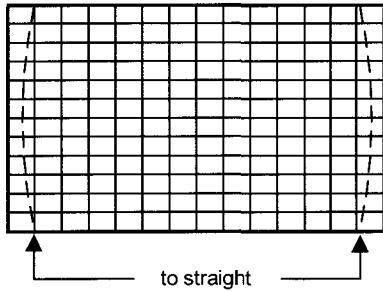
1080i 16 : 9 UNDER SCAN H.CENTER, H.SHIFT

Test equipment	Signal generator (Cross-hatch circle patter)
Test points	
Adjustment locations	DK03 (H. CENTER), DK01 (H.SIZE)
<ol style="list-style-type: none"> 1. Set the scan size to the UNDER, and set the ASPECT to 16:9 in the MENU screen. 2. Input the cross-hatch circle pattern of the 1080i component Y signal to the input A terminal. 3. Adjust the DK03 to correct the horizontal center agree with the CRT screen center. 4. Adjust the DK01 so that the picture size falls within the place of 10mm or more from both sides of the escutcheon. 	
	

1080i 16 : 9 UNDER SCAN V.CENTER, V.SHIFT

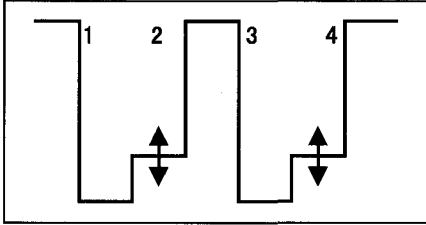
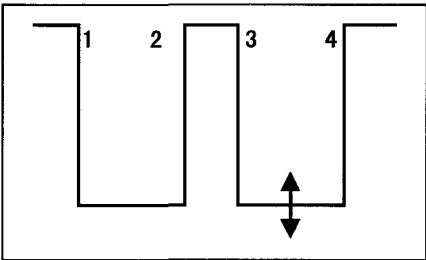
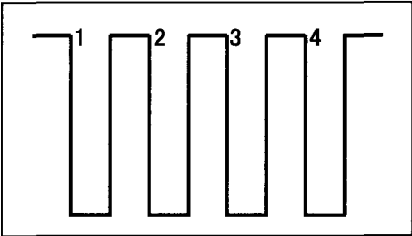
Test equipment	Signal generator (Cross-hatch circle pattern)
Test points	
Adjustment locations	DK04 (V. SHIFT), DK02 (V. SIZE)
<ol style="list-style-type: none"> 1. Set the scan size to the UNDER, and set the ASPECT to 16:9 in the MENU screen. 2. Input the cross-hatch circle pattern of the 1080i component Y signal to the input A terminal. 3. Adjust the DK04 to correct the vertical center agree with the CRT screen center. 4. Adjust the vertical scan size to 217mm with the DK02. 	
	

1080i 16 : 9 UNDER SCAN SIDE PINCUSHION, TRAPEZOID, PARALLELOGRAM

Test equipment	Signal generator (Cross-hatch pattern)
Test points	
Adjustment locations	DK05 (SIDE PIN), DK08 (TRAPEZOID), DK07 (PARALLELOGRAM)
<ol style="list-style-type: none"> 1. Set the scan size to the UNDER, and set the ASPECT to 16:9 in the MENU screen. 2. Input the cross-hatch circle pattern of the 1080i component Y signal to the input A terminal. 3. If vertical lines are distorted in side pincushion condition, adjust the DK05 to 2nd vertical lines from the screen edges become straight. 4. Confirm the trapezoidal distortion. If illegal, adjust the DK08 to correct the distortion. 5. Confirm the parallelogram distortion. If illegal, adjust the DK07 to correct the distortion. 	
	

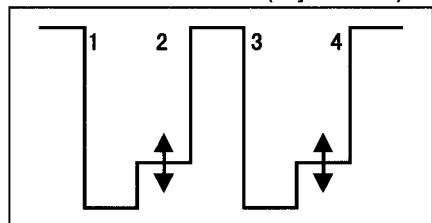
CHROMA/PHASE ADJUSTMENT

NTSC COLOR SYNCHRONOUS	
Test equipment	Signal generator (75% Color bar pattern)
Test points	
Adjustment locations	APC SW [SIGNAL PWB], APC TRIMMER CAP. [SIGNAL PWB]
<div>1. Input the NTSC composite video signal of the 75% color bar pattern to the INPUT B terminal.</div> <div>2. Turn the APC SW to the "S" side.</div> <div>3. Adjust the APC Trimmer to disappear the color stripe on the screen.</div> <div>4. Turn the APC SW to the "N" side.</div> <div>5. Switch the input signal momentary, and confirm that the color synchronous obtains at once when switch to the INPUT B.</div>	

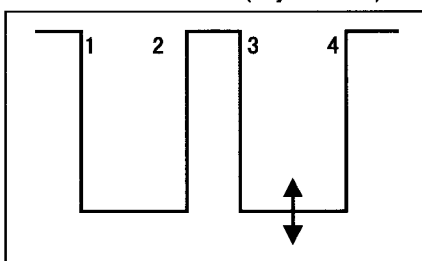
NTSC 4 : 3 COMPOSITE VIDEO SIGNAL CHROMA/PHASE	
Test equipment	Signal generator (75% Color bar pattern)
Test points	TP-47R[CRT SOCKET PWB] TP-47B[CRT SOCKET PWB]
Adjustment locations	COMB SW [SIGNAL PWB] SA04(PHASE), SA03(CHROMA), SA09(B-Y GAIN)
<div><div><div>TP-47R WAVEFORM (adjust SA04)</div><div>(Fig. 1)</div></div><div><div>TP-47R WAVEFORM (adjust SA03)</div><div>(Fig. 2)</div></div><div><div>TP-47B WAVEFORM (adjust SA09)</div><div>(Fig. 3)</div></div></div> <div><div>1. Input the NTSC composite video signal of the 75% color bar pattern to the INPUT B terminal.</div><div>2. Set the ASPECT to 4:3 in the MENU screen.</div><div>3. Set the CHROMA and PHASE VR on the front panel to the click position.</div><div>4. Turn the COMB SW to the "S" side.</div><div>5. Connect the oscillo-scope to the TP-47R and TP-47B.</div><div>6. While observing the waveform of TP-47R, adjust the SA04 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.1).</div><div>7. And then while observing the waveform of the TP-47R, adjust the SA03 to obtain the straight waveform between 1 and2, 3 and 4 (Fig.2).</div><div>8. While observing the waveform of the TP-47B, adjust the SA09 to obtain the straight waveform all of 1 to 4 (Fig.3).</div><div>9. Confirm that the waveform of 1 to 4 are straight. If illegal, readjust the step 6 to 8 as same steps.</div><div>10. Turn the COMB SW to "N" side, and confirm the chroma/phase condotion not unusual.</div></div>	

NTSC 4 : 3 Y/C SEPARATE VIDEO SIGNAL CHROMA/PHASE

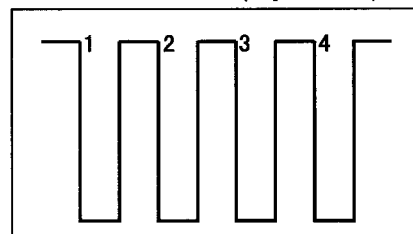
Test equipment	Signal generator (75% Color bar pattern)
Test points	TP-47R[CRT SOCKET PWB], TP-47B[CRT SOCKET PWB]
Adjustment locations	COMB SW [SIGNAL PWB], SB04(PHASE), SB03(CHROMA), SB09(B-Y GAIN)

TP-47R WAVEFORM (adjust SB04)

(Fig. 1)

TP-47R WAVEFORM (adjust SB03)

(Fig. 2)

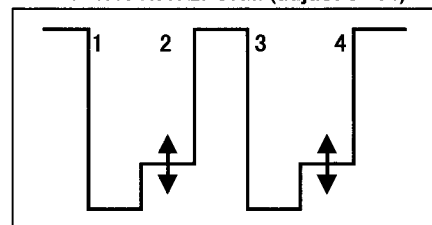
TP-47B WAVEFORM (adjust SB09)

(Fig. 3)

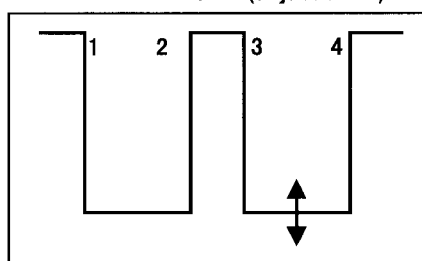
1. Input the NTSC Y/C separate video signal of the 75% color bar pattern to the INPUT B terminal.
2. Set the ASPECT to 4:3 in the MENU screen.
3. Set the CHROMA and PHASE VR on the front panel to the click position.
4. Turn the COMB SW to the "S" side.
5. Connect the oscillo-scope to the TP-47R and TP-47B.
6. While observing the waveform of TP-47R, adjust the SB04 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.1).
7. And then while observing the waveform of the TP-47R, adjust the SB03 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.2).
8. While observing the waveform of the TP-47B, adjust the SB09 to obtain the straight waveform all of 1 to 4 (Fig.3).
9. Confirm that the waveform of 1 to 4 are straight. If illegal, readjust the step 6 to 8 as same steps.
10. Turn the COMB SW to "N" side, and confirm the chroma/phase condition not unusual.

480i 16 : 9 OVER SCAN CHROMA/PHASE

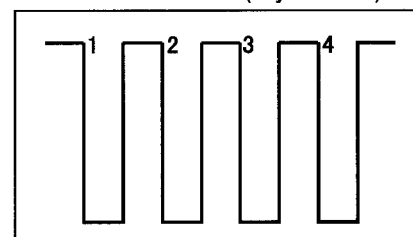
Test equipment	Signal generator(75% Color bar pattern)
Test points	TP-47R[CRT SOCKET PWB], TP-47B[CRT SOCKET PWB]
Adjustment locations	COMB SW [SIGNAL PWB], SC04(PHASE), SC03(CHROMA), SC09(B-Y GAIN)

TP-47R WAVEFORM (adjust SC04)

(Fig. 1)

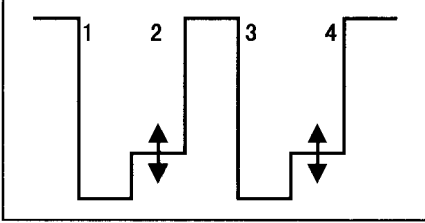
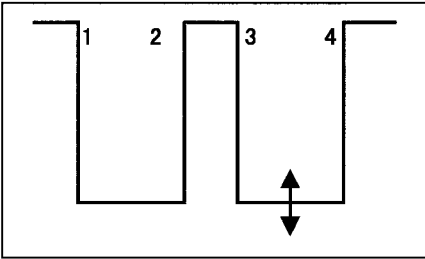
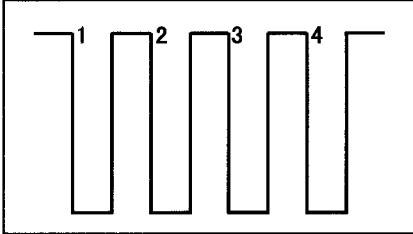
TP-47R WAVEFORM (adjust SC03)

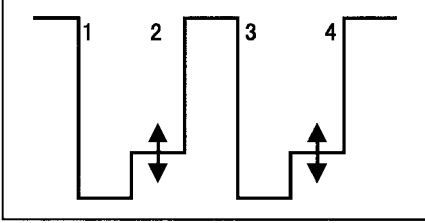
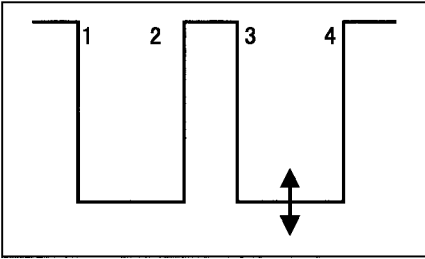
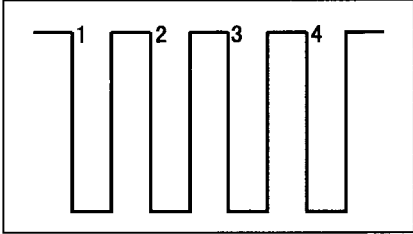
(Fig. 2)

TP-47B WAVEFORM (adjust SC09)

(Fig. 3)

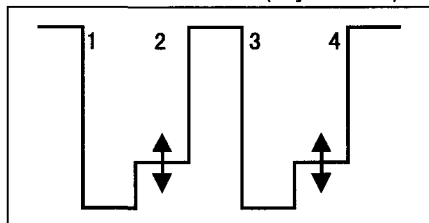
1. Input the 480i color bar pattern to the INPUT B terminal.
2. Set the ASPECT to 16:9 in the MENU screen.
3. Set the CHROMA and PHASE VR on the front panel to the click position.
4. Turn the COMB SW to the "S" side.
5. Connect the oscillo-scope to the TP-47R and TP-47B.
6. While observing the waveform of TP-47R, adjust the SC04 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.1).
7. And then while observing the waveform of the TP-47R, adjust the SC03 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.2).
8. While observing the waveform of the TP-47B, adjust the SC09 to obtain the straight waveform all of 1 to 4 (Fig.3).
9. Confirm that the waveform of 1 to 4 are straight. If illegal, readjust the step 6 to 8 as same steps.
10. Turn the COMB SW to "N" side, and confirm the chroma/phase condition not unusual.

480P 16 : 9 OVER SCAN CHROMA/PHASE	
Test equipment	Signal generator(75% Color bar pattern)
Test points	TP-47R[CRT SOCKET PWB], TP-47B[CRT SOCKET PWB]
Adjustment locations	COMB SW [SIGNAL PWB], SD04(PHASE), SD03(CHROMA), SD09(B-Y GAIN)
<div><div>TP-47R WAVEFORM (adjust SD04)  (Fig. 1)</div><div>TP-47R WAVEFORM (adjust SD03)  (Fig. 2)</div><div>TP-47B WAVEFORM (adjust SD09)  (Fig. 3)</div></div>	
<div><div>1. Input the 480P color bar pattern to the INPUT B terminal.</div><div>2. Set the ASPECT to 16:9 in the MENU screen.</div><div>3. Set the CHROMA and PHASE VR on the front panel to the click position.</div><div>4. Turn the COMB SW to the "S" side.</div><div>5. Connect the oscillo-scope to the TP-47R and TP-47B.</div><div>6. While observing the waveform of TP-47R, adjust the SD04 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.1).</div><div>7. And then while observing the waveform of the TP-47R, adjust the SD03 to obtain the straight waveform between 1 and2, 3 and 4 (Fig.2).</div><div>8. While observing the waveform of the TP-47B, adjust the SD09 to obtain the straight waveform all of 1 to 4 (Fig.3).</div><div>9. Confirm that the waveform of 1 to 4 are straight. If illegal, readjust the step 6 to 8 as same steps.</div><div>10.Turn the COMB SW to "N" side, and confirm the chroma/phase condotion not unusual.</div></div>	

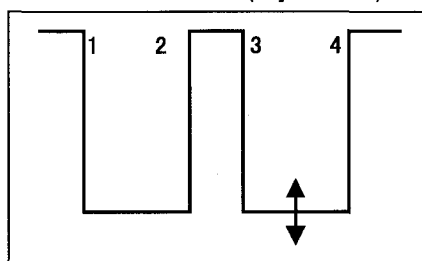
720P 16 : 9 OVER SCAN CHROMA/PHASE	
Test equipment	Signal generator(75% Color bar pattern)
Test points	TP-47R[CRT SOCKET PWB], TP-47B[CRT SOCKET PWB]
Adjustment locations	COMB SW [SIGNAL PWB], SE04(PHASE), SE03(CHROMA), SE09(B-Y GAIN)
<div><div>TP-47R WAVEFORM (adjust SE04)  (Fig. 1)</div><div>TP-47R WAVEFORM (adjust SE03)  (Fig. 2)</div><div>TP-47B WAVEFORM (adjust SE09)  (Fig. 3)</div></div>	
<div><div>1. Input the 720P color bar pattern to the INPUT B terminal.</div><div>2. Set the ASPECT to 16:9 in the MENU screen.</div><div>3. Set the CHROMA and PHASE VR on the front panel to the click position.</div><div>4. Turn the COMB SW to the "S" side.</div><div>5. Connect the oscillo-scope to the TP-47R and TP-47B.</div><div>6. While observing the waveform of TP-47R, adjust the SE04 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.1).</div><div>7. And then while observing the waveform of the TP-47R, adjust the SE03 to obtain the straight waveform between 1 and2, 3 and 4 (Fig.2).</div><div>8. While observing the waveform of the TP-47B, adjust the SE09 to obtain the straight waveform all of 1 to 4 (Fig.3).</div><div>9. Confirm that the waveform of 1 to 4 are straight. If illegal, readjust the step 6 to 8 as same steps.</div><div>10.Turn the COMB SW to "N" side, and confirm the chroma/phase condotion not unusual.</div></div>	

1080i 16 : 9 OVER SCAN CHROMA/PHASE

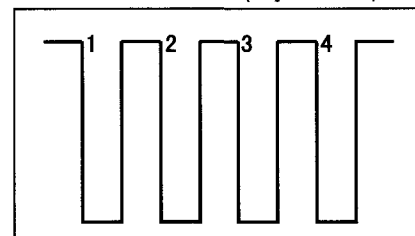
Test equipment	Signal generator(75% Color bar pattern)
Test points	TP-47R[CRT SOCKET PWB], TP-47B[CRT SOCKET PWB]
Adjustment locations	COMB SW [SIGNAL PWB], SF04(PHASE), SF03(CHROMA), SF09(B-Y GAIN)

TP-47R WAVEFORM (adjust SF04)

(Fig. 1)

TP-47R WAVEFORM (adjust SF03)

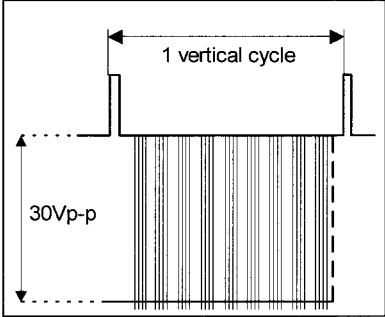
(Fig. 2)

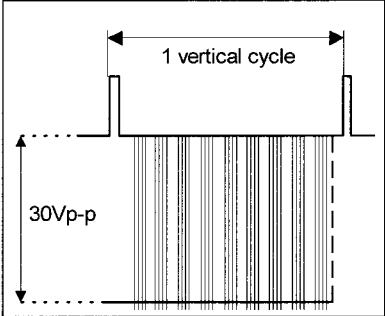
TP-47B WAVEFORM (adjust SF09)

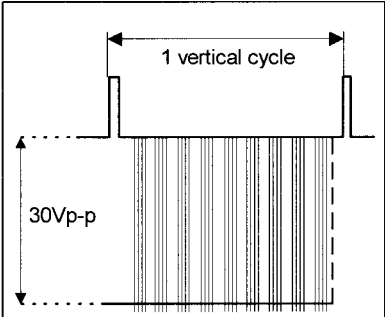
(Fig. 3)

1. Input the 1080i color bar pattern to the INPUT B terminal.
2. Set the ASPECT to 16:9 in the MENU screen.
3. Set the CHROMA and PHASE VR on the front panel to the click position.
4. Turn the COMB SW to the "S" side.
5. Connect the oscillo-scope to the TP-47R and TP-47B.
6. While observing the waveform of TP-47R, adjust the SF04 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.1).
7. And then while observing the waveform of the TP-47R, adjust the SF03 to obtain the straight waveform between 1 and 2, 3 and 4 (Fig.2).
8. While observing the waveform of the TP-47B, adjust the SF09 to obtain the straight waveform all of 1 to 4 (Fig.3).
9. Confirm that the waveform of 1 to 4 are straight. If illegal, readjust the step 6 to 8 as same steps.
10. Turn the COMB SW to "N" side, and confirm the chroma/phase condotion not unusual.

CONTRAST ADJUSTMENT

NTSC 4 : 3 OVER SCAN COMPOSITE VIDEO CONTRAST	
Test equipment	Signal generator (Cross-hatch pattern:100IRE)
Test points	TP-47G [CRT SOCKET PWB]
Adjustment locations	SA01 (CONTRAST)
<div>1. Set the scan size to OVER, and set the ASPECT to 4 : 3 in the MENU screen.</div> <div>2. Input the NTSC composite video signal to the input B terminal.</div> <div>3. Connect the oscilloscope to the TP-47G.</div> <div>4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SA01.</div>	
	

NTSC 16 : 9 OVER SCAN COMPOSITE VIDEO CONTRAST	
Test equipment	Signal generator (Cross-hatch pattern:100IRE)
Test points	TP-47G [CRT SOCKET PWB]
Adjustment locations	SJ01 (CONTRAST)
<div>1. Set the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.</div> <div>2. Input the NTSC composite video signal to the input B terminal.</div> <div>3. Connect the oscilloscope to the TP-47G.</div> <div>4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SJ01.</div>	
	

NTSC 4 : 3 OVER SCAN Y/C SEPARATE VIDEO SIGNAL CONTRAST	
Test equipment	Signal generator (Cross-hatch pattern:100IRE)
Test points	TP-47G [CRT SOCKET PWB]
Adjustment locations	SB01 (CONTRAST)
<div>1. Set the scan size to OVER, and set the ASPECT to 4 : 3 in the MENU screen.</div> <div>2. Input the Y/C separate video signal to the input B terminal.</div> <div>3. Connect the oscilloscope to the TP-47G.</div> <div>4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SB01.</div>	
	

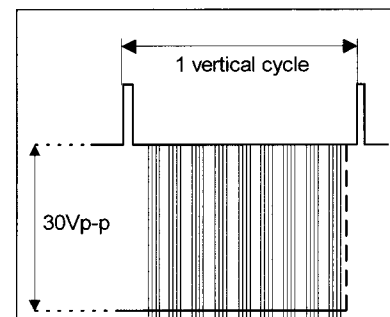
480i 16 : 9 OVER SCAN CONTRAST

Test equipment	Signal generator (Cross-hatch pattern:100IRE)
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Test points	TP-47G [CRT SOCKET PWB]
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Adjustment locations	SC01 (CONTRAST)
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1. Set the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the 480i signal to the input B terminal.
3. Connect the oscilloscope to the TP-47G.
4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SC01.

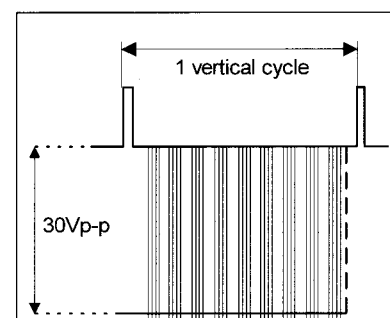
**480P 16 : 9 OVER SCAN CONTRAST**

Test equipment	Signal generator (Cross-hatch pattern:100IRE)
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Test points	TP-47G [CRT SOCKET PWB]
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Adjustment locations	SD01 (CONTRAST)
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1. Set the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Input the 480P signal to the input B terminal.
3. Connect the oscilloscope to the TP-47G.
4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SD01.

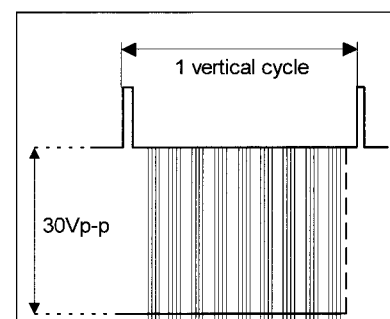
**720P 16 : 9 OVER SCAN CONTRAST**

Test equipment	Signal generator (Cross-hatch pattern:100IRE)
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Test points	TP-47G [CRT SOCKET PWB]
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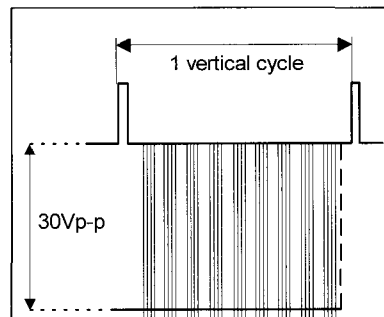
Adjustment locations	SE01 (CONTRAST)
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1. Set the scan size to OVER in the MENU screen.
2. Input the 720P signal to the input B terminal.
3. Connect the oscilloscope to the TP-47G.
4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SE01.

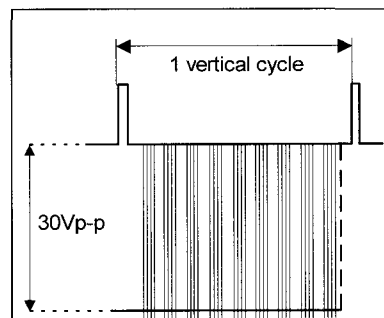


1080i OVER SCAN CONTRAST

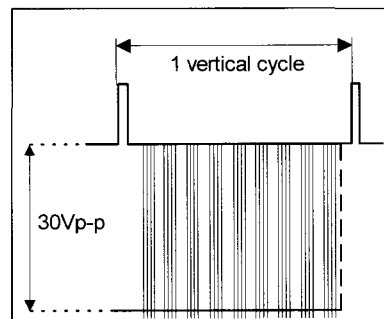
Test equipment	Signal generator (Cross-hatch pattern:100IRE)
Test points	TP-47G [CRT SOCKET PWB]
Adjustment locations	SF01 (CONTRAST)
<ol style="list-style-type: none"> 1. Set the scan size to OVER in the MENU screen. 2. Input the 1080i gnal to the input B terminal. 3. Connect the oscilloscope to the TP-47G. 4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SF01. 	

**640 × 480 VGA RGB(INPUT C) CONTRAST**

Test equipment	Signal generator (Cross-hatch pattern:100IRE)
Test points	TP-47G [CRT SOCKET PWB]
Adjustment locations	SG01 (CONTRAST)
<ol style="list-style-type: none"> 1. Set the input mode of the INPUT A to RGB. 2. Input the VGA(640 × 480) cross-hatch pattern signal to the input A terminal. 3. Connect the oscilloscope to the TP-47G. 4. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SG01. 	

**640 × 480 VGA RGB(INPUT C) CONTRAST**

Test equipment	Signal generator (Cross-hatch pattern:100IRE)
Test points	TP-47G [CRT SOCKET PWB]
Adjustment locations	SH01 (CONTRAST)
<ol style="list-style-type: none"> 1. Input the VGA(640 × 480) cross-hatch pattern signal to the input C terminal. 2. Connect the oscilloscope to the TP-47G. 3. Adjust the waveform level between 0% black and 100% white to 30Vp-p with SH01. 	



WHITE BALANCE ADJUSTMENT

640 × 480 31.5kHz/60Hz WHITE BALANCE : LOW LIGHT (COLOR TEMP = HIGH 9300K)	
Test equipment	Signal generator (10 step gray scale pattern)
Test points	
Adjustment locations	Screen VR(FBT), WA04 (R CUTOFF), WA05 (G CUTOFF), WA06 (B CUTOFF)
<ol style="list-style-type: none"> 1. Set the color temp. to HIGH in the MENU. 2. Set the BRIGHT and CONTRAST VR on the front panel to the click position. 3. Input the VGA(640 × 480) 10 step gray scale signal (31.5kHz/60Hz) to the input C terminal. 4. Turn the screen volume(FBT) gradually, to where the 2nd gray bar faintly visible. 5. Adjust WA04, WA05 and WA06 not to the colors on the gray bar. 6. The data of WA04~WA06 write into the data of WB04~WB06. Don't adjust the item of WB04~WB06. 	

640 × 480 31.5kHz/60Hz WHITE BALANCE : HIGH LIGHT (COLOR TEMP=HIGH 9300K)	
Test equipment	Signal generator (10 step gray scale pattern)
Test points	
Adjustment locations	WA01 (R DRIVE), WA03 (B DRIVE)
<ol style="list-style-type: none"> 1. Set the color temp. to HIGH in the MENU. 2. Input the 10 step gray scale pattern signal (31.5kHz/60Hz) to the input C terminal. 3. Adjust the WA01 and WA03 to set the color temperature become given bellow (Not to adjust the WA02). COLOR TEMP. HIGH(9300K) $x=0.283$, $y=0.297$ (reference value) 4. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WA05). 	

640 × 480 31.5kHz/60Hz WHITE BALANCE : HIGH LIGHT (COLOR TEMP = LOW 6500K)	
Test equipment	Signal generator (10 step gray scale pattern)
Test points	
Adjustment locations	WB01 (R DRIVE), WB03 (B DRIVE)
<ol style="list-style-type: none"> 1. Set the color temp. to LOW in the MENU. 2. Input the 10 step gray scale pattern signal (31.5kHz/60Hz) to the input C terminal. 3. Adjust the WB01 and WB03 to set the color temperature become given bellow (Not to adjust the WB02). COLOR TEMP. HIGH(6500K) $x=0.313$, $y=0.329$ (reference value) 4. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WB05). 	

NTSC 4:3 COMPOSITE VIDEO SIGNAL WHITE BALANCE : HIGH LIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (10 step gray scale pattern)
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Test points	
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Adjustment locations	WC01 (R DRIVE), WC03 (B DRIVE)
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1. Set the color temp. to HIGH in the MENU.
2. Input the NTSC 10 step gray scale pattern signal to the input B terminal.
3. Adjust the WC01 and WC03 to set the color temperature become given bellow (Not to adjust the WC02).
COLOR TEMP. HIGH(9300K) x=0.283, y=0.297 (reference value)
4. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WC05).

NTSC 4:3 COMPOSITE VIDEO SIGNAL WHITE BALANCE : HIGH LIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (10 step gray scale pattern)
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Test points	
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Adjustment locations	WD01 (R DRIVE), WD03 (B DRIVE)
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1. Set the color temp. to LOW in the MENU.
2. Input the 10 step gray scale pattern signal to the input C terminal.
3. Adjust the WD01 and WD03 to set the color temperature become given bellow (Not to adjust the WD02).
COLOR TEMP. HIGH(6500K) x=0.313, y=0.329 (reference value)
4. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WD05).

480i 16:9 OVER SCAN WHITE BALANCE : HIGH LIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (10 step gray scale pattern)
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Test points	
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Adjustment locations	WI01 (R DRIVE), WI03 (B DRIVE)
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1. Set the color temp. to HIGH, ASPECT to 16:9, and set the scan size to OVER in the MENU.
2. Set the BRIGHT and CONTRAST VR on the front panel to the click position.
3. Input the NTSC 10 step gray scale pattern signal to the input A terminal.
4. Adjust the WI01 and WI03 to set the color temperature become given bellow (Not to adjust the WC02).
COLOR TEMP. HIGH(9300K) x=0.283, y=0.297 (reference value)
5. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WI05).

480i 16:9 OVER SCAN WHITE BALANCE : HIGH LIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (10 step gray scale pattern)
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Test points	
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Adjustment locations	WJ01 (R DRIVE), WJ03 (B DRIVE)
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1. Set the color temp. to LOW, ASPECT to 16:9, and set the scan size to OVER in the MENU.
2. Set the BRIGHT and CONTRAST VR on the front panel to the click position.
3. Input the 10 step gray scale pattern signal to the input A terminal.
4. Adjust the WJ01 and WJ03 to set the color temperature become given bellow (Not to adjust the WJ02).
COLOR TEMP. HIGH(6500K) x=0.313, y=0.329 (reference value)
5. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WJ05).

480P/720P/1080i OVER SCAN WHITE BALANCE : HIGH LIGHT (COLOR TEMP = HIGH 9300K)	
Test equipment	Signal generator (10 step gray scale pattern)
Test points	
Adjustment locations	WE01 (R DRIVE), WE03 (B DRIVE)
<ol style="list-style-type: none"> 1. Set the color temp. to HIGH, and set the scan size to OVER in the MENU. 2. Set the BRIGHT and CONTRAST VR on the front panel to the click position. 3. Input the 10 step gray scale pattern signal to the input A terminal. 4. Adjust the WE01 and WE03 to set the color temperature become given bellow (Not to adjust the WE02). COLOR TEMP. HIGH(9300K) x=0.283, y=0.297 (reference value) 5. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WE05). 	

480P/720P/1080i OVER SCAN WHITE BALANCE : HIGH LIGHT (COLOR TEMP = LOW 6500K)	
Test equipment	Signal generator (10 step gray scale pattern)
Test points	
Adjustment locations	WF01 (R DRIVE), WF03 (B DRIVE)
<ol style="list-style-type: none"> 1. Set the color temp. to LOW, and set the scan size to OVER in the MENU. 2. Set the BRIGHT and CONTRAST VR on the front panel to the click position. 3. Input the 10 step gray scale pattern signal to the input A terminal. 4. Adjust the WF01 and WF03 to set the color temperature become given bellow (Not to adjust the WF02). COLOR TEMP. HIGH(6500K) x=0.313, y=0.329 (reference value) 5. Confirm that obtain the color tracking between low temperature and high one on the gray scale pattern signal. If illegal, readjust same steps as above (at that time, not to change the value of WF05). 	

BRIGHT ADJUSTMENT**NTSC 4 : 3 COMPOSITE VIDEO SIGNAL BRIGHT (COLOR TEMP = HIGH 9300K)**

Test equipment	Signal generator (Split color bar)
Test points	
Adjustment locations	SA02 (BRIGHT)
1. Set the color temp. to HIGH, and set the ASPECT to 4 : 3 in the MENU screen 2. Set the CONTRAST and BRIGHT VR on the front panel to the click position. 3. Input the split color bar signal to the input B terminal. 4. Adjust SA02 to where the split color bar -1% black component faintly brightens (Not to black level too bright extremity). 5. If low light adjustment out of range, readjust the low light adjustment.	

NTSC 4 : 3 COMPOSITE VIDEO SIGNAL BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (Split color bar)
Test points	
Adjustment locations	SA11 (BRIGHT)
1. Set the color temp. to LOW, and set the ASPECT to 4 : 3 in the MENU screen 2. Set the CONTRAST and BRIGHT VR on the front panel to the click position. 3. Input the split color bar signal to the input B terminal. 4. Adjust SA11 to where the split color bar -1% black component faintly brightens (Not to black level too bright extremity). 5. If low light adjustment out of range, readjust the low light adjustment.	

NTSC 16 : 9 COMPOSITE VIDEO SIGNAL BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (Split color bar)
Test points	
Adjustment locations	SJ02 (BRIGHT)
1. Set the color temp. to HIGH, and set the ASPECT to 16 : 9 in the MENU screen 2. Set the CONTRAST and BRIGHT VR on the front panel to the click position. 3. Input the split color bar signal to the input B terminal. 4. Adjust SJ02 to where the split color bar -1% black component faintly brightens (Not to black level too bright extremity). 5. If low light adjustment out of range, readjust the low light adjustment.	

NTSC 16 : 9 COMPOSITE VIDEO SIGNAL BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (Split color bar)
Test points	
Adjustment locations	SJ03 (BRIGHT)
1. Set the color temp. to LOW, and set the ASPECT to 16 : 9 in the MENU screen 2. Set the CONTRAST and BRIGHT VR on the front panel to the click position. 3. Input the split color bar signal to the input B terminal. 4. Adjust SJ03 to where the split color bar -1% black component faintly brightens (Not to black level too bright extremity). 5. If low light adjustment out of range, readjust the low light adjustment.	

480i 16 : 9 BRIGHT(COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
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Test points	
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Adjustment locations	SC02 (BRIGHT), SI02(BRIGHT)
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1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SC02 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI02 to the 0% black component faintly brightens.

480i 4 : 3 BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SJ08 (BRIGHT), SJ11(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SJ08 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SJ11 to the 0% black component faintly brightens.

480i 16 : 9 BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SC11 (BRIGHT), SI03(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SC11 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI03 to the 0% black component faintly brightens.

480i 4 : 3 BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SJ09 (BRIGHT), SJ12(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SJ09 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SJ12 to the 0% black component faintly brightens.

480P 16 : 9 BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SD02 (BRIGHT), SI05(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SD02 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI05 to the 0% black component faintly brightens.

480P 4 : 3 BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SJ14 (BRIGHT), SJ17(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SJ14 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SJ17 to the 0% black component faintly brightens.

480P 16 : 9 BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SD11 (BRIGHT), SI06(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SD11 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI06 to the 0% black component faintly brightens.

480P 4 : 3 BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SJ15 (BRIGHT), SJ18(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 4 : 3 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SJ15 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SJ18 to the 0% black component faintly brightens.

720P 16 : 9 BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SE02 (BRIGHT), SI08(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SE02 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI08 to the 0% black component faintly brightens.

720P 16 : 9 BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SE11 (BRIGHT), SI09 (BRIGHT)
-----------------------------	-------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SE11 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI09 to the 0% black component faintly brightens.

1080i 16 : 9 BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SF02 (BRIGHT), SI11(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SF02 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI11 to the 0% black component faintly brightens.

1080i 16 : 9 BRIGHT (COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SF11 (BRIGHT), SI12(BRIGHT)
-----------------------------	------------------------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16 : 9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SF11 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).
5. Switch the scan size to UNDER in the MENU screen.
6. In the same way, adjust the SI12 to the 0% black component faintly brightens.

640 × 480 (31.5kHz/60Hz) RGB (INPUT A) BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SG02 (BRIGHT)
-----------------------------	----------------------

1. Set the color temp. to HIGH in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SG02 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).

640 × 480(31.5kHz/60Hz) RGB (INPUT A) BRIGHT(COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SG03 (BRIGHT)
-----------------------------	----------------------

1. Set the color temp. to HIGH in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SG03 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).

640 × 480(31.5kHz/60Hz) RGB (INPUT C) BRIGHT (COLOR TEMP = HIGH 9300K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SH02 (BRIGHT)
-----------------------------	----------------------

1. Set the color temp. to HIGH in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SH02 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).

640 × 480(31.5kHz/60Hz) RGB (INPUT C) BRIGHT(COLOR TEMP = LOW 6500K)

Test equipment	Signal generator (2% step gray scale pattern)
-----------------------	--

Test points	
--------------------	--

Adjustment locations	SH03 (BRIGHT)
-----------------------------	----------------------

1. Set the color temp. to HIGH, the scan size to OVER, and set the ASPECT to 16:9 in the MENU screen.
2. Set the CONTRAST and BRIGHT VR on the front panel to the click position.
3. Input the 2% step gray scale pattern signal to the input A terminal.
4. Adjust SH03 to where the gray scale 0% black component faintly brightens (Not to black level too bright extremity).

HOW TO CHECK THE HOLD DOWN CIRCUIT

1. HIGH VOLTAGE HOLD DOWN CIRCUIT

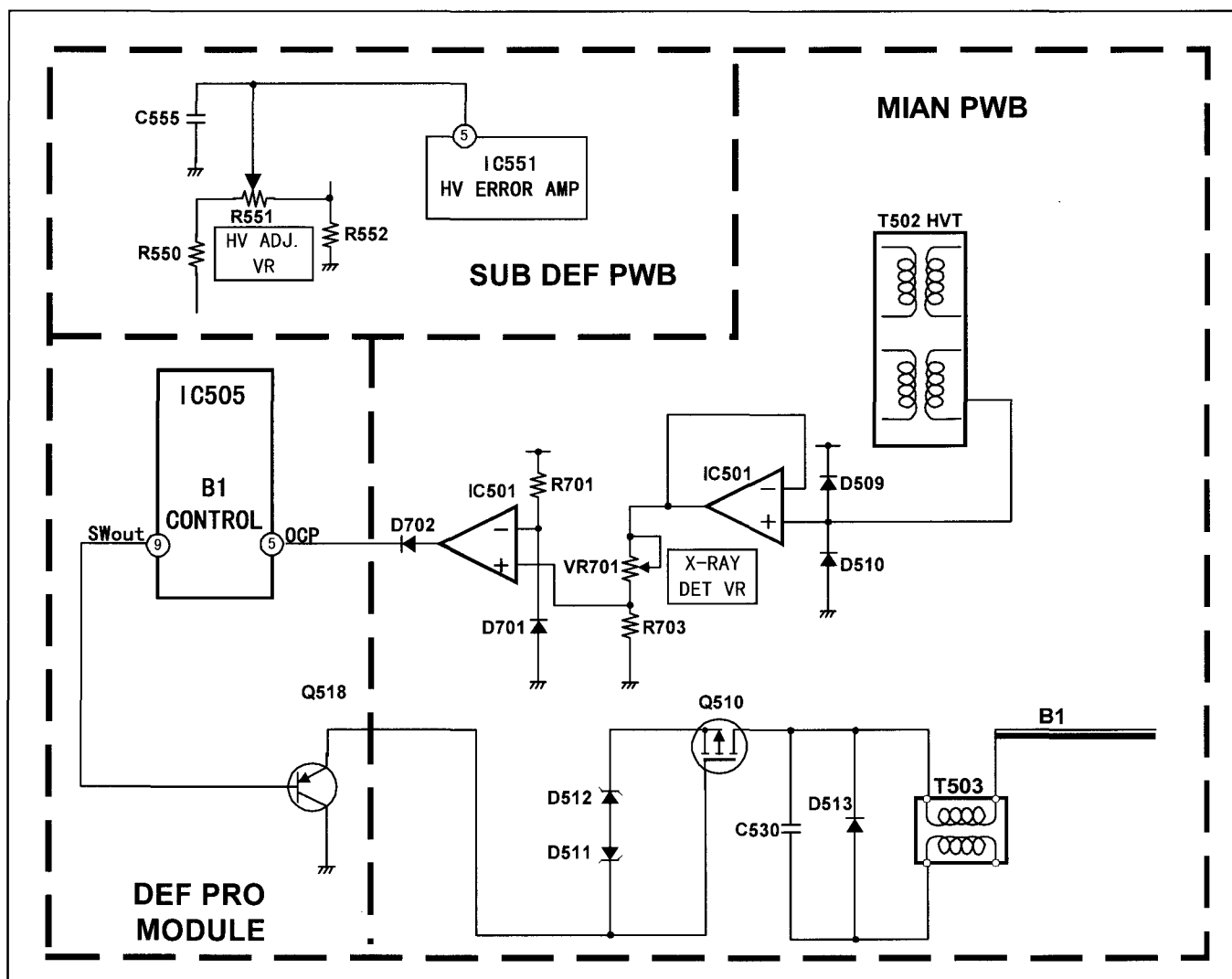
After repairing the high voltage hold down circuit shown in Fig.1.

This circuit shall be checked to operate correctly.

2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

Adjustment parts	FUNCTION	PW Board ASS'Y
VR701	X-RAY DET VR	FX-2056A [MAIN PWB ASS'Y]
R551	HIGH VOLTAGE ADJUSTMENT VR	FX-2107A [SUB DEF PWB ASS'Y]

- (1) Connect the high voltage meter to anode.
- (2) Input the NTSC cross-hatch signal to input B terminal.
- (3) Then turn the R551 gradually, so that the high voltage become $30.0\text{kV} \pm 0.2\text{kV}$.
- (4) Slowly turn the VR701 gradually, so that the X-RAY protector turn on.
(If turn on the X-RAY protector, screen display deleted and indication of the input B LED (on the front panel) has flashed.)
- (5) Turn off the power.
- (6) Lock the VR701 by applying the bond.
- (7) Make sure that the voltage is $30\text{kV} \pm 0.5\text{kV}$. If illegal, adjust again in step (3) to step (7).
- (8) Then adjust the high voltage adjustment surely shown in page before.





DT-V2000SU/A STANDARD CIRCUIT DIAGRAMS

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the Δ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- | | |
|---|--|
| (1) Input signal | : Color bar signal |
| (2) Setting positions of each knob/button and variable resistor | : Original setting position when shipped |
| (3) Internal resistance of tester | : DC 20k Ω / V |
| (4) Oscilloscope sweeping time | : H \Rightarrow 20 μ S/div
: V \Rightarrow 5mS/div
: Others \Rightarrow Sweeping time is specified |
| (5) Voltage values | : All DC voltage values |

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209 \rightarrow R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

● Resistance value

- | | |
|---------|------------------|
| No unit | : { Ω } |
| K | : { K Ω } |
| M | : { M Ω } |

● Rated allowable power

- | | |
|---------------|----------------|
| No indication | : 1/4[W] |
| Others | : As specified |

● Type

- | | |
|---------------|-----------------------------|
| No indication | : Carbon resistor |
| OMR | : Oxide metal film resistor |
| MFR | : Metal film resistor |
| MPR | : Metal plate resistor |
| UNFR | : Uninflamable resistor |
| FR | : Fusible resistor |

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

● Capacitance value

- | | |
|-------------|---------------|
| 1 or higher | : [pF] |
| less than 1 | : [μ F] |

● Withstand voltage

- | | |
|---------------|----------------------------|
| No indication | : DC50[V] |
| AC indicated | : AC withstand voltage [V] |
| Others | : DC withstand voltage [V] |

* Electrolytic Capacitors

47/50[Example]: Capacitance value [μ F]/withstand voltage[V]

● Type

- | | |
|---------------|-------------------------------------|
| No indication | : Ceramic capacitor |
| MY | : Mylar capacitor |
| MM | : Metalized mylar capacitor |
| PP | : Polypropylene capacitor |
| MPP | : Metalized polypropylene capacitor |
| MF | : Metalized film capacitor |
| TF | : Thin film capacitor |
| BP | : Bipolar electrolytic capacitor |
| TAN | : Tantalum capacitor |

(3) Coils

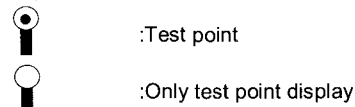
- | | |
|---------|----------------|
| No unit | : [μ H] |
| Others | : As specified |

(4) Power Supply

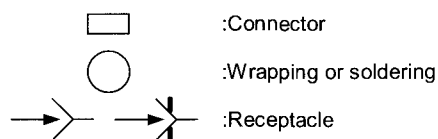


* Respective voltage values are indicated

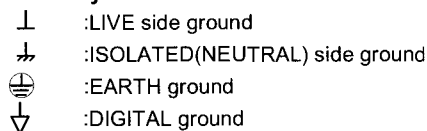
(5) Test point



(6) Connecting method



(7) Ground symbol



5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (\perp) side GND and the ISOLATED(NEUTRAL) : (\downarrow) side GND. Therefore, care must be taken for the following points.

- (1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

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CIRCUIT DIAGRAMS







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PATTERN DIAGRAMS

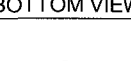
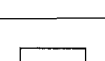
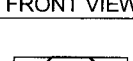
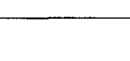
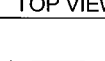
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SEMICONDUCTOR SHAPES

TRANSISTOR

TRANSISTOR					
BOTTOM VIEW	FRONT VIEW				TOP VIEW
					

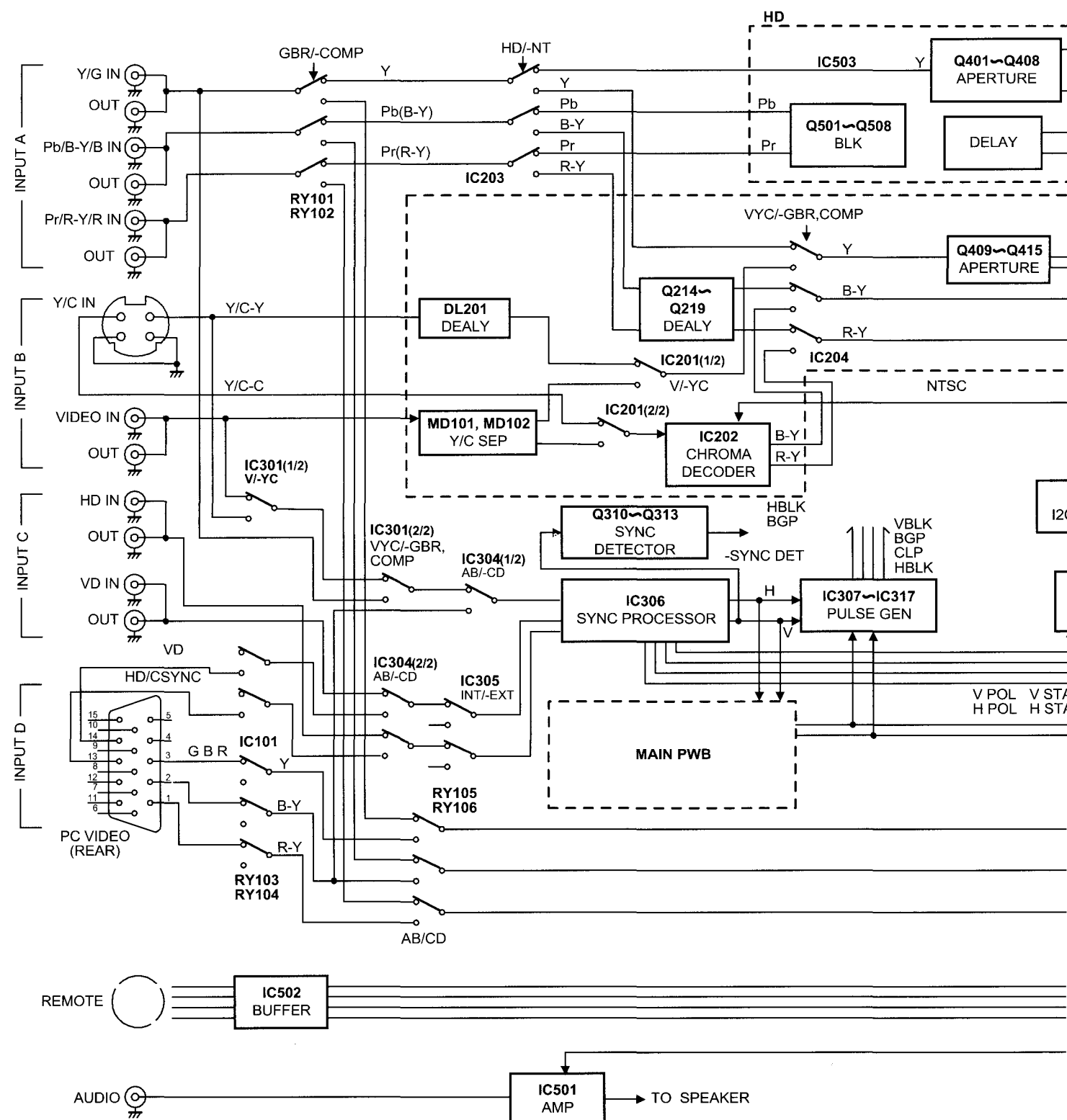
IC

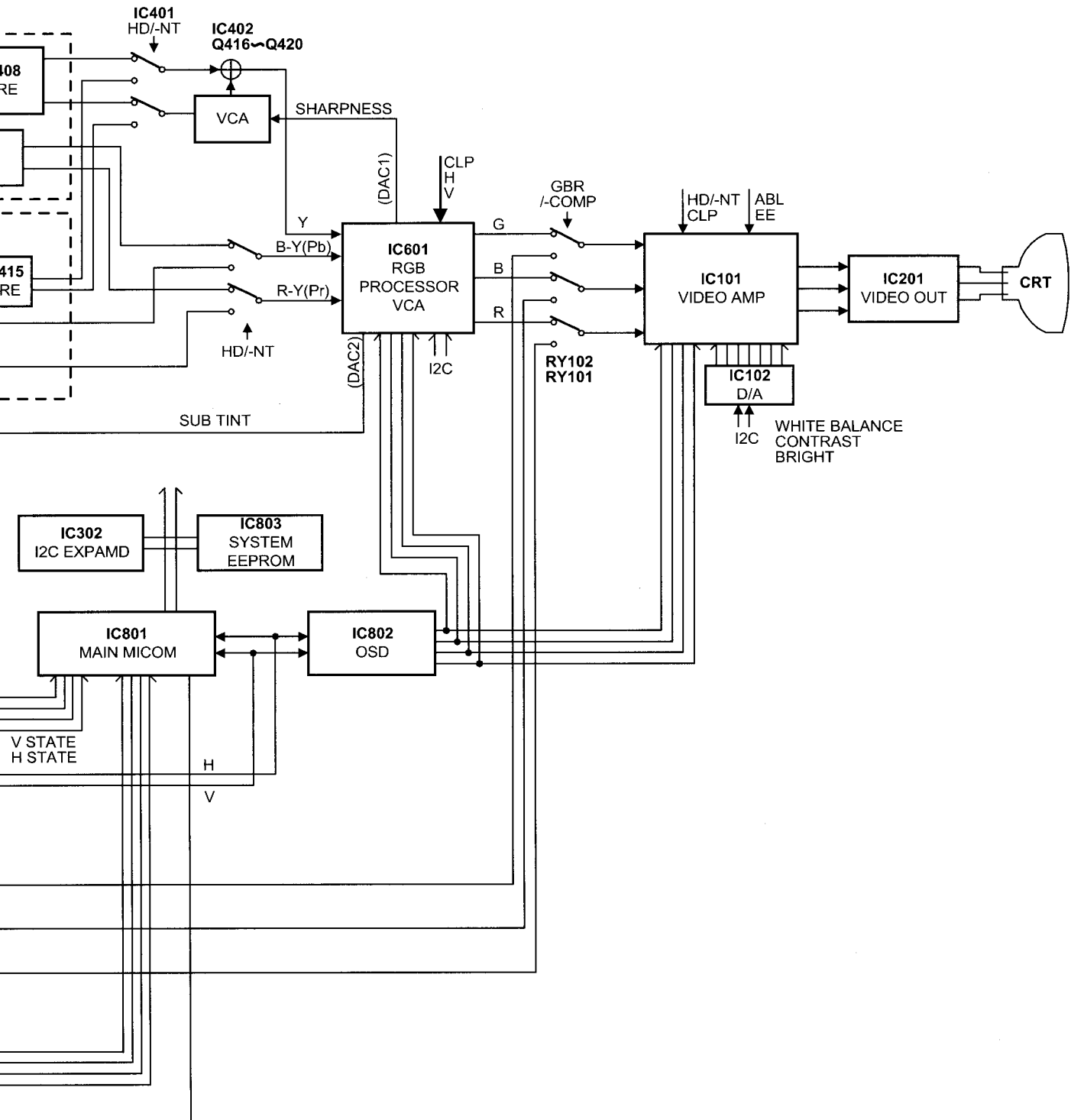
BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

TOP VIEW		

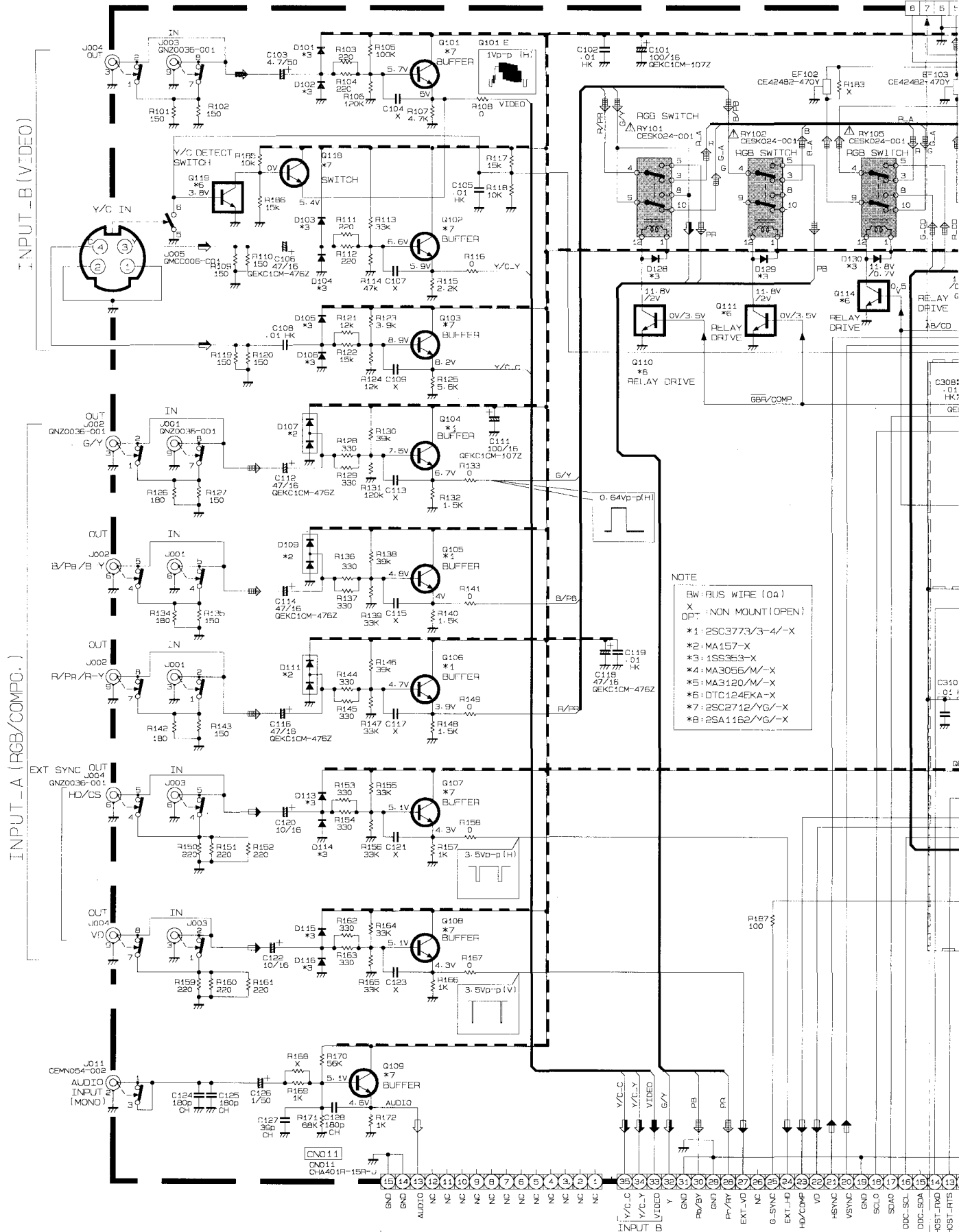
BLOCK DIAGRAM





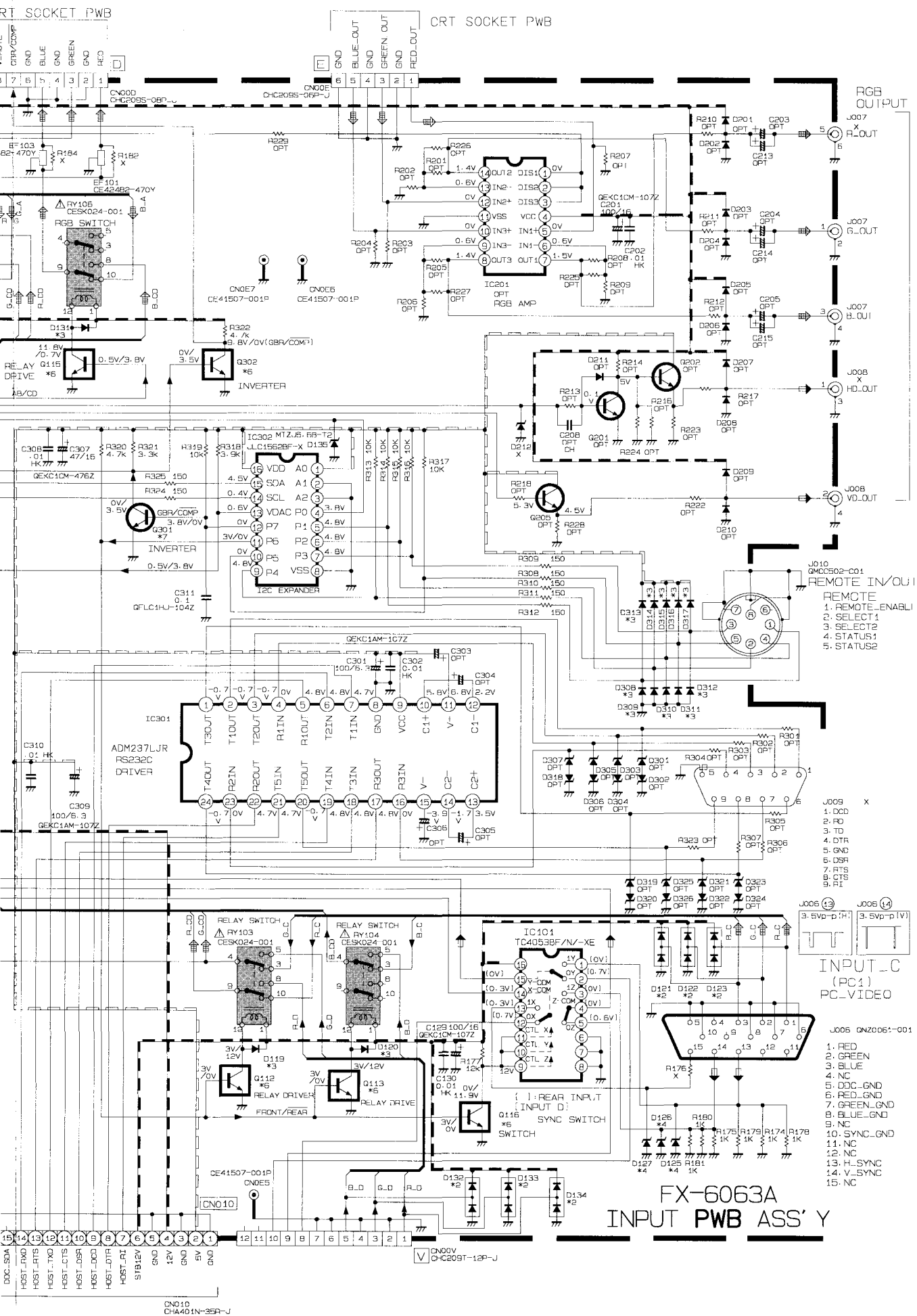
CIRCUIT DIAGRAMS

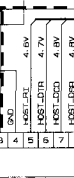
INPUT PWB CIRCUIT DIAGRAM



CRT SOCKET PWB

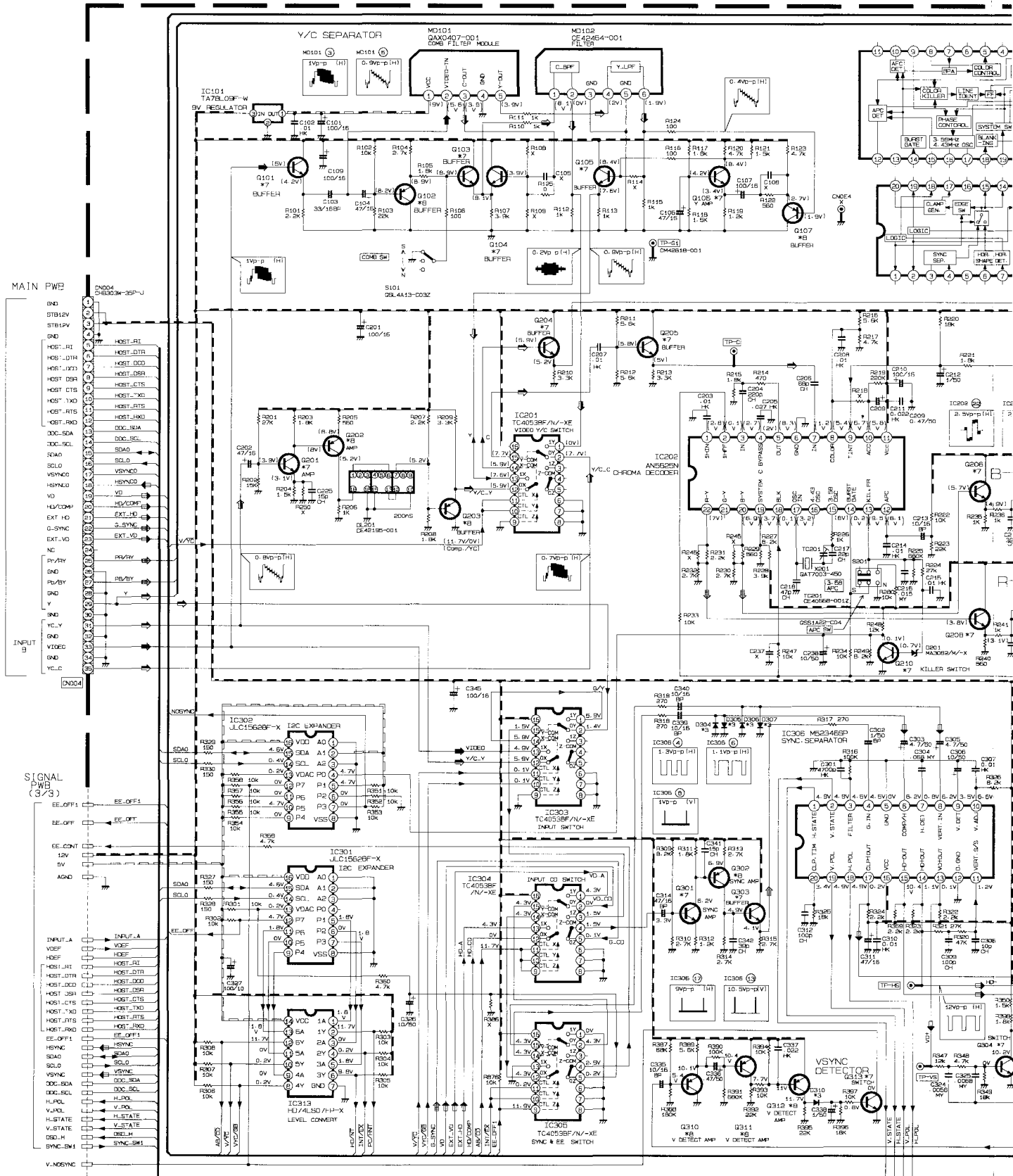
CRT SOCKET PWB



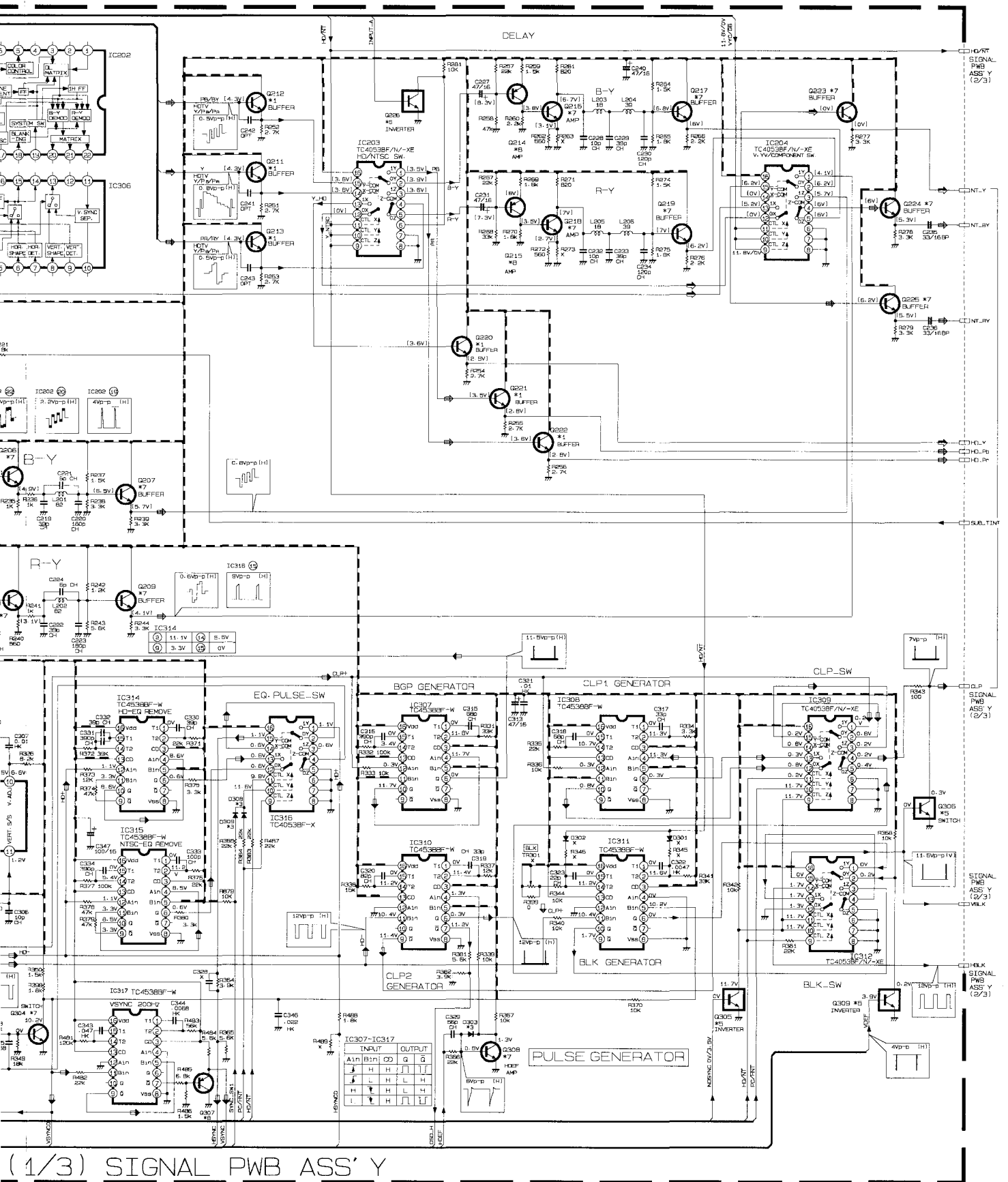


SIGNAL PWB CIRCUIT DIAGRAM (NTSC / SYNC)

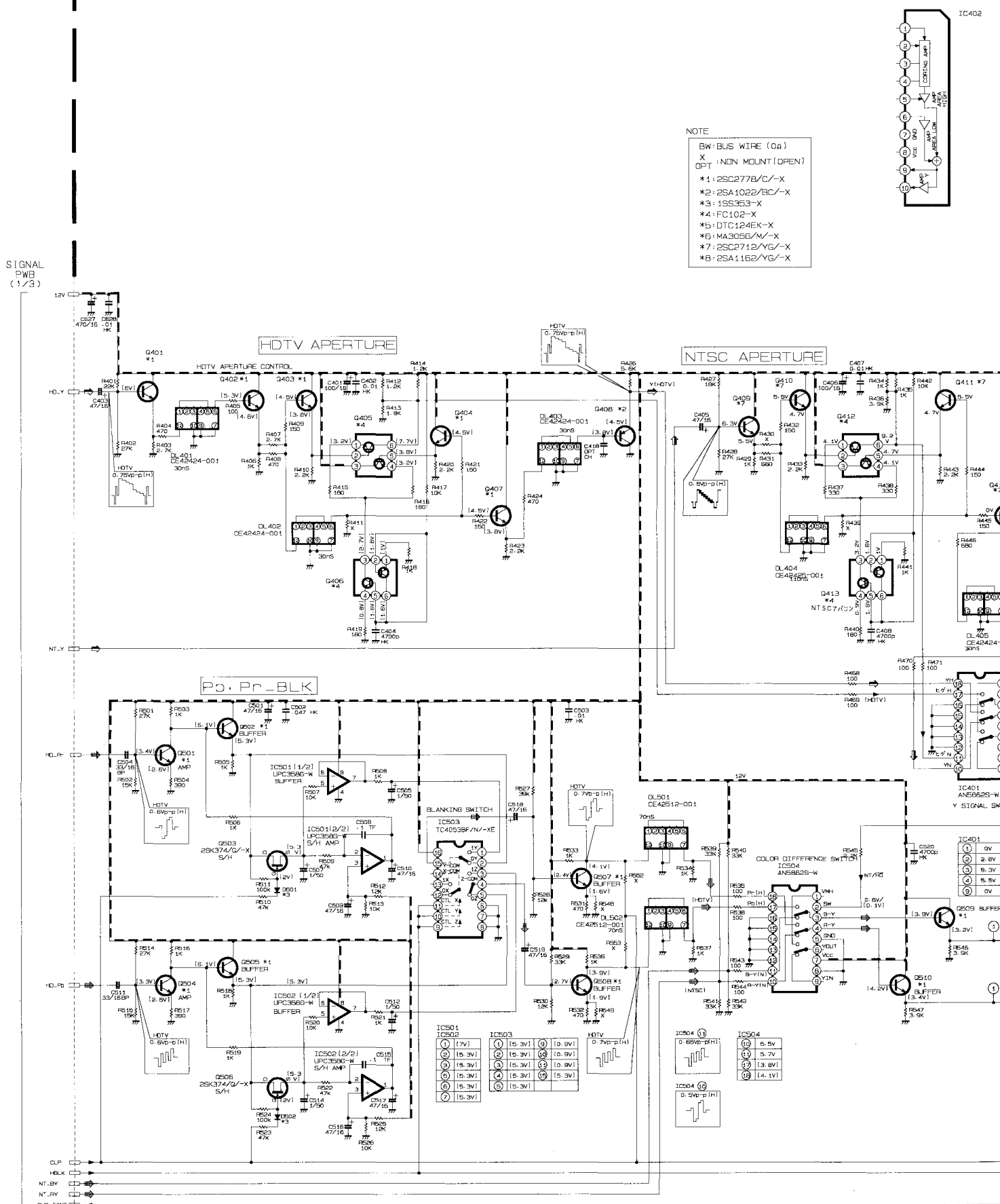
()NTSC/Comp./YC IN ()HOTV/Pa/Pb/Pc IN



FX-1123A (1/2)

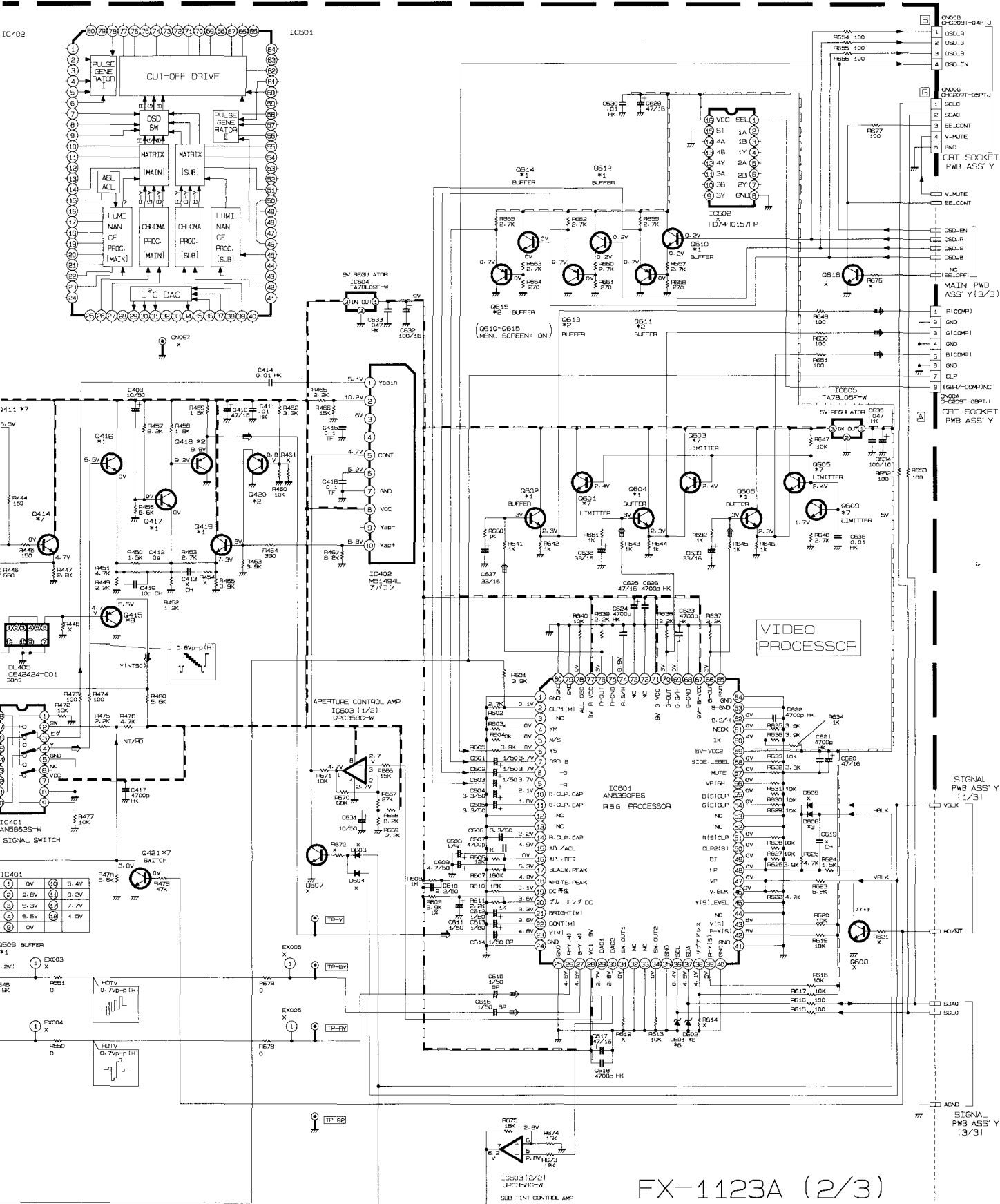


(APERTURE / RGB)

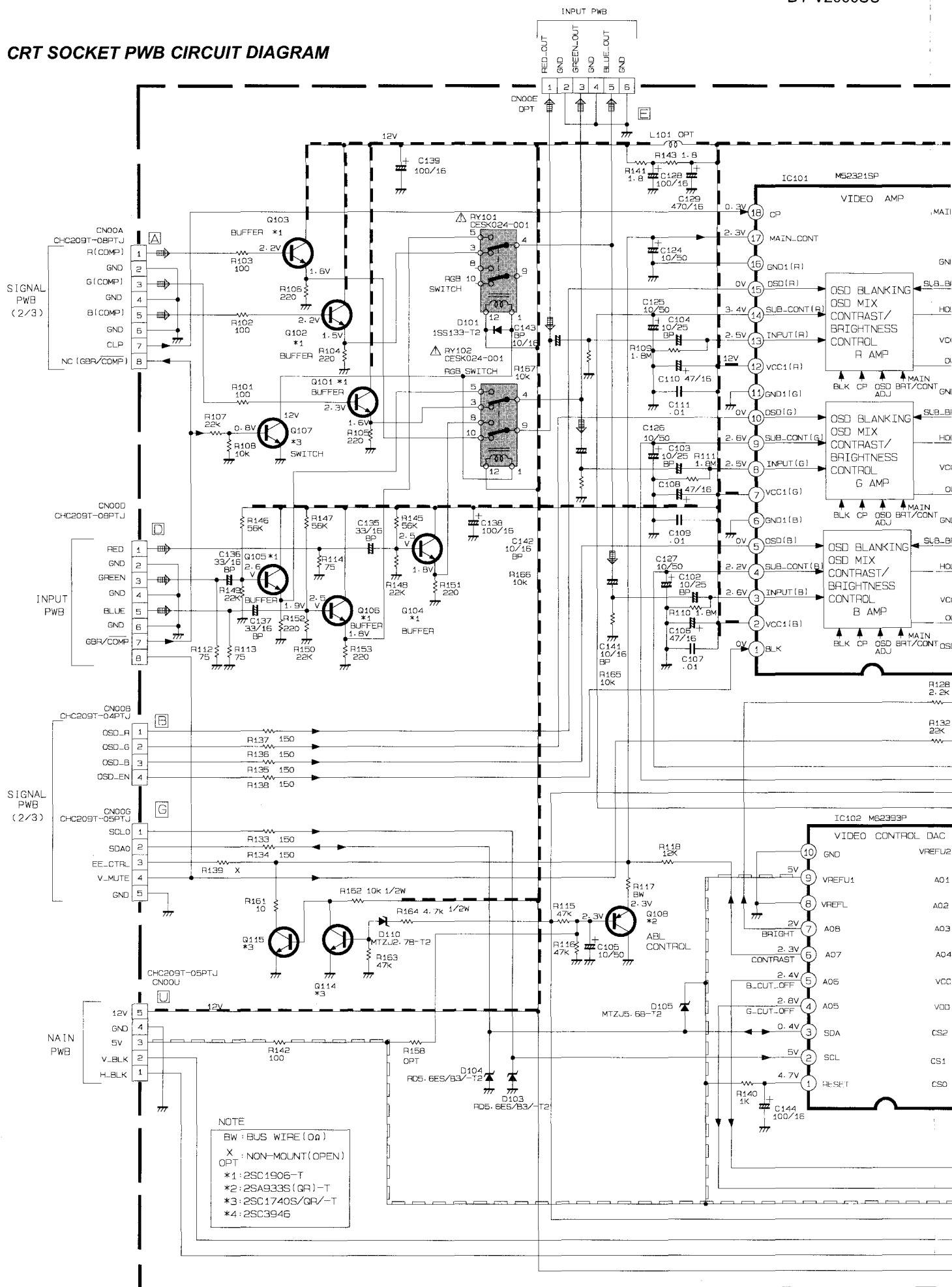


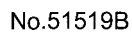
IC402

IC501

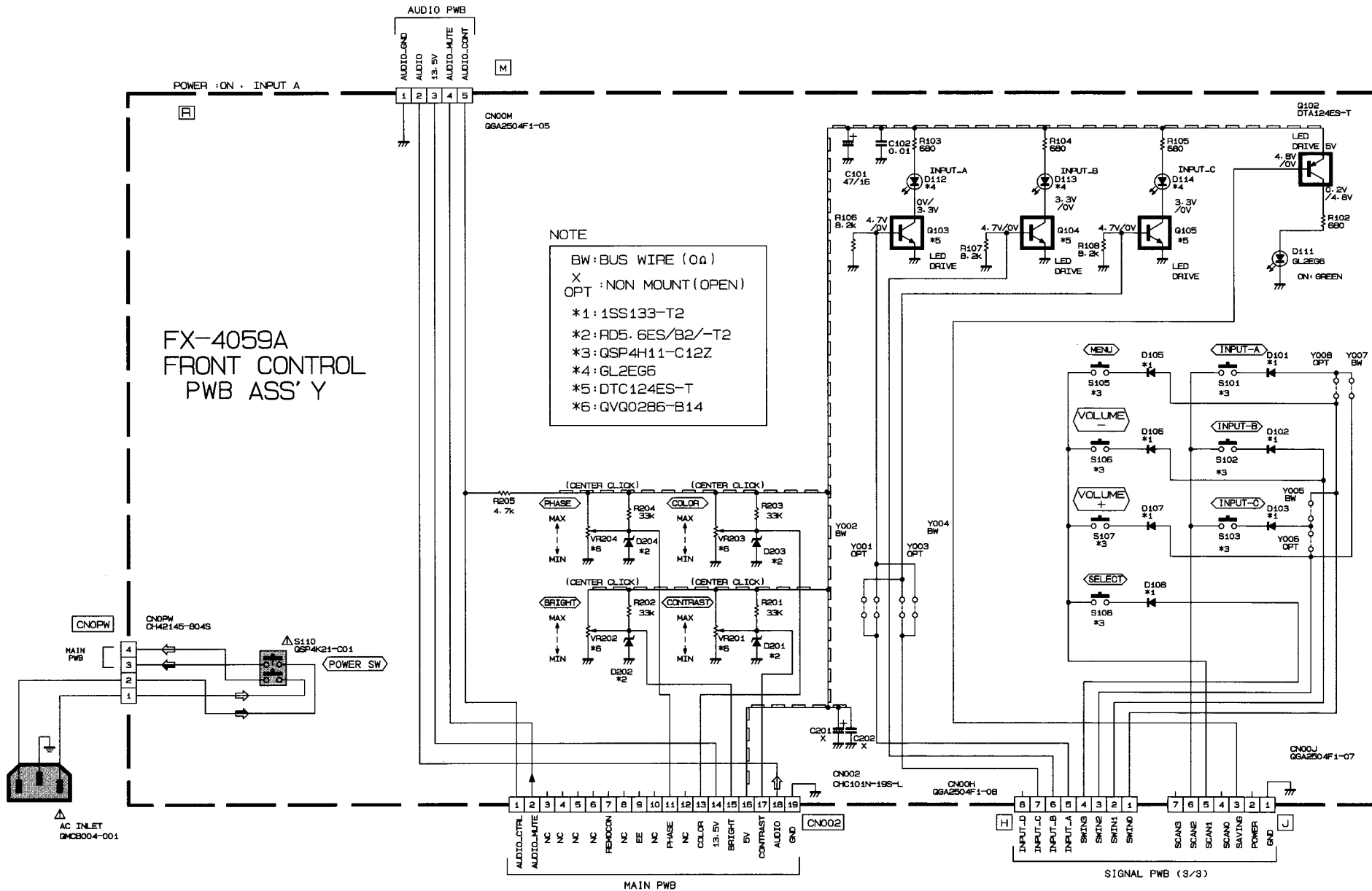


CRT SOCKET PWB CIRCUIT DIAGRAM



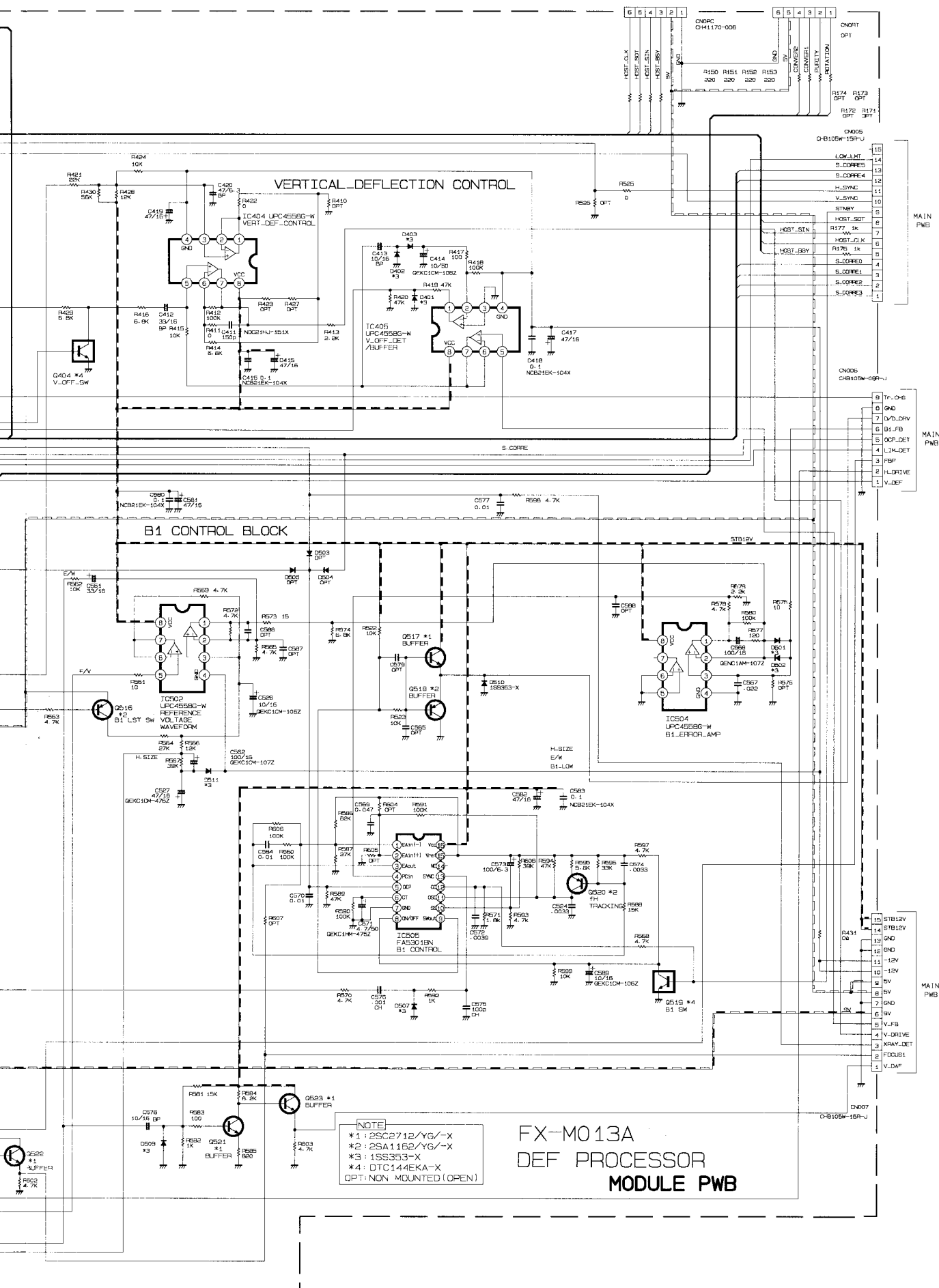


FRONT CONTROL PWB CIRCUIT DIAGRAM

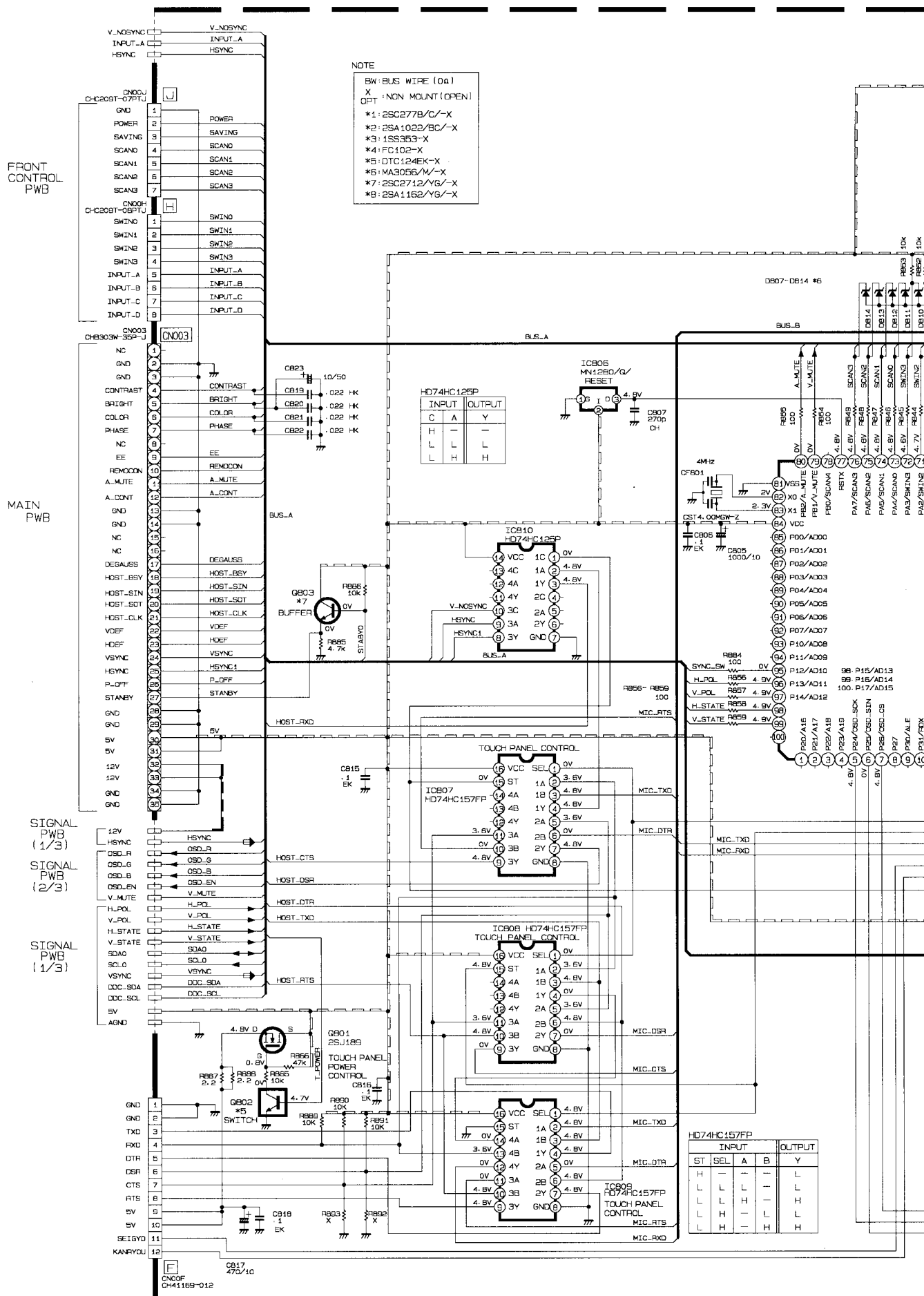


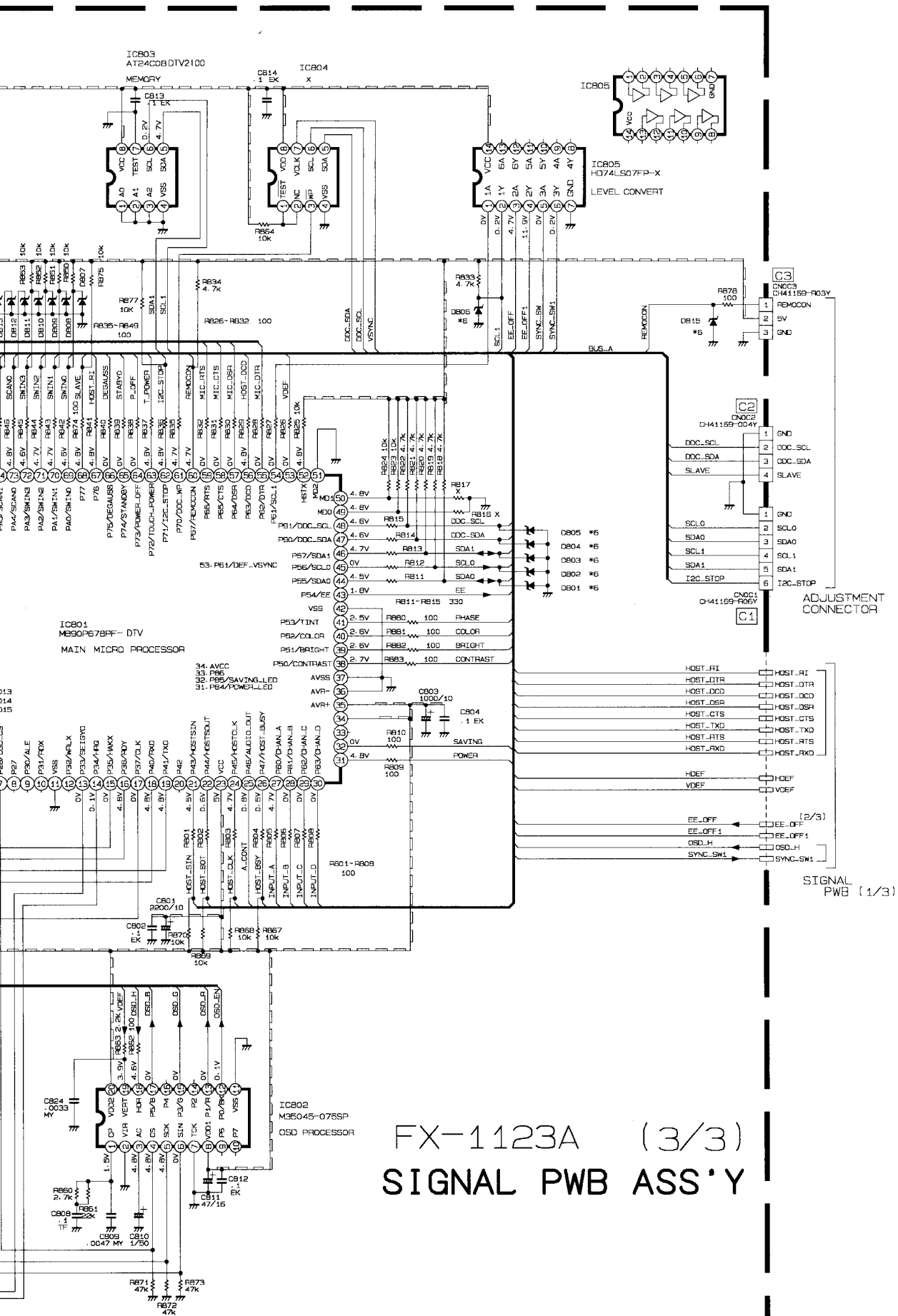


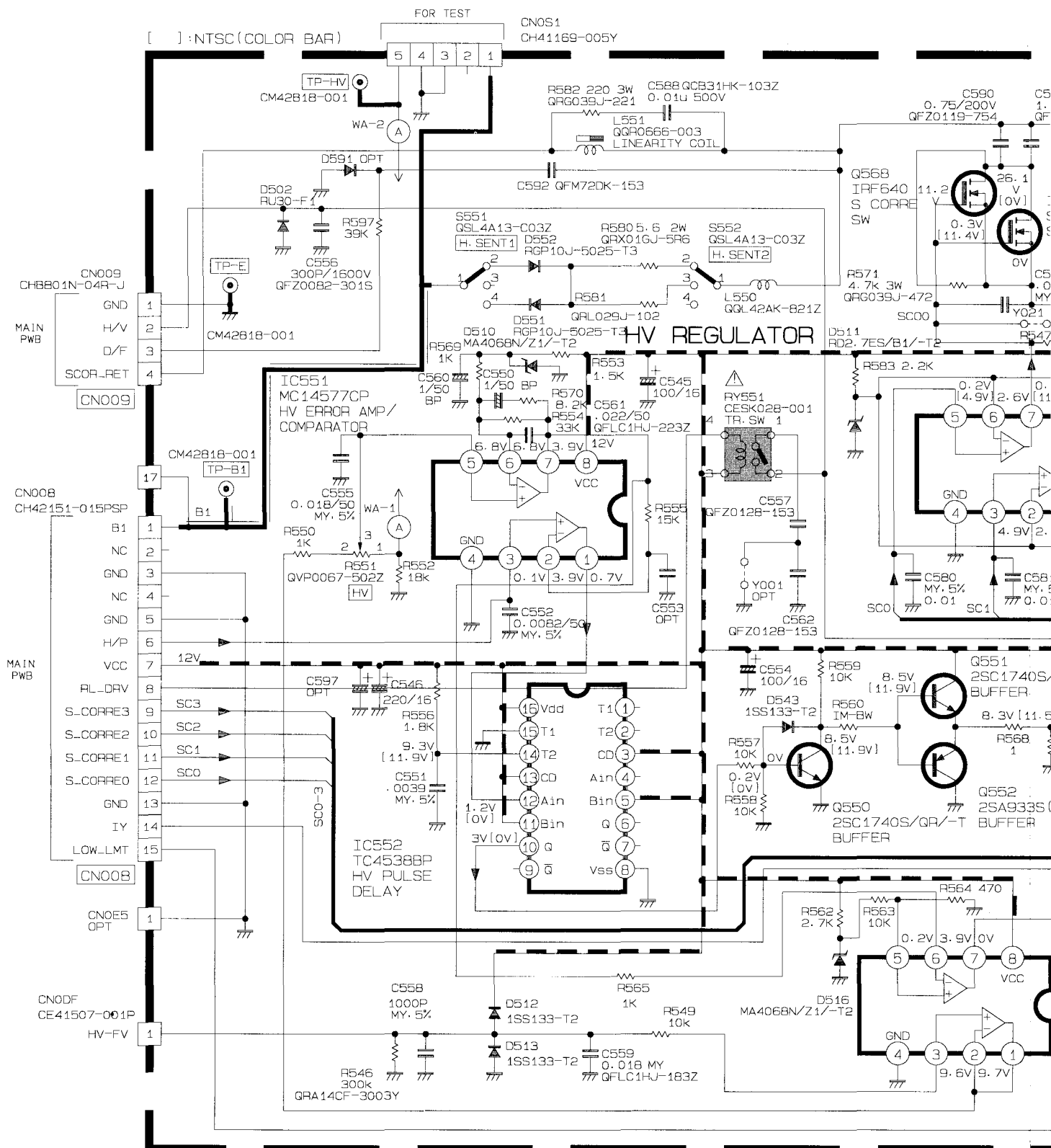


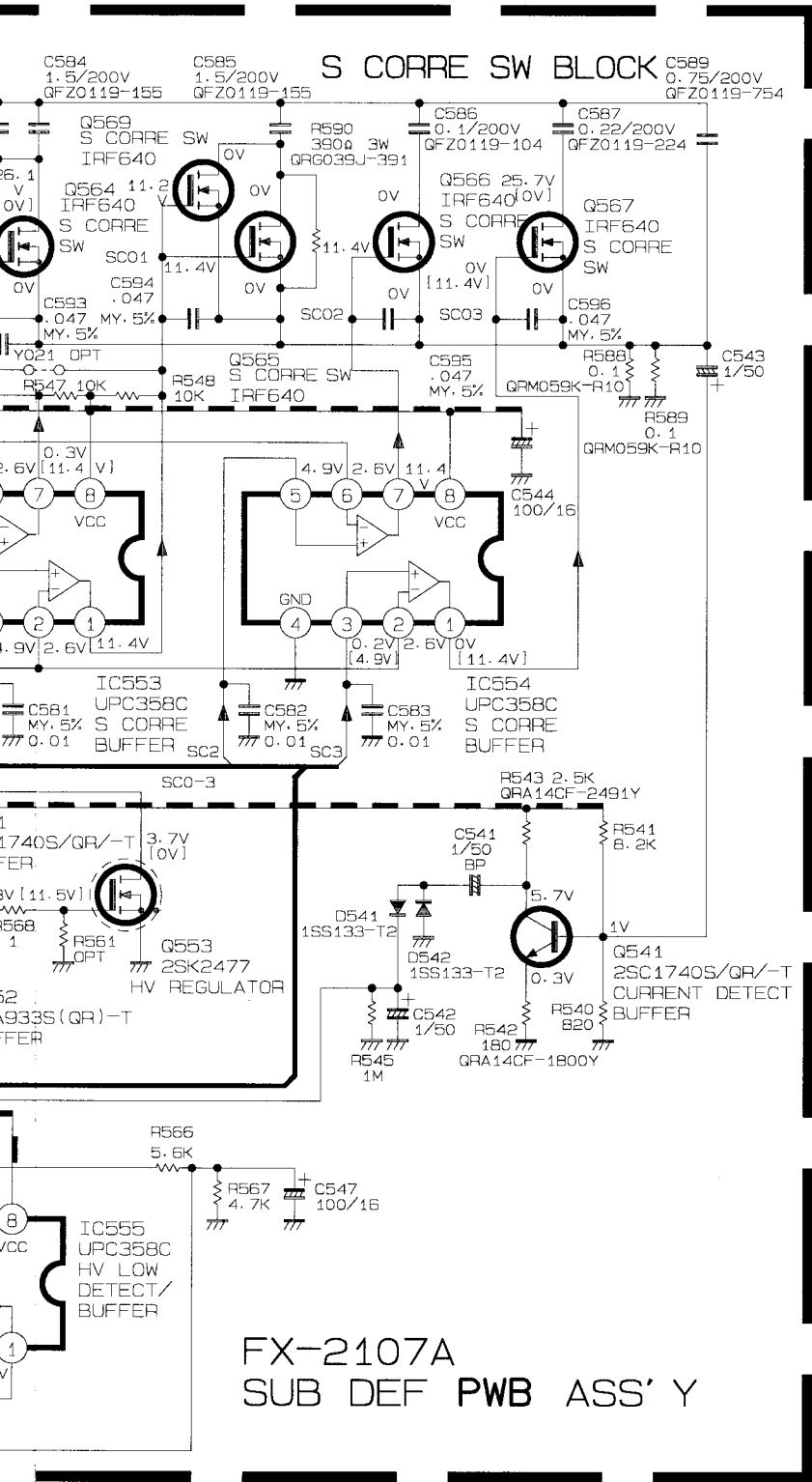


SIGNAL PWB CIRCUIT DIAGRAM (MICRO PROCESSOR)







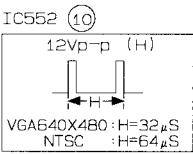


IC551

①	1.2V [0V]
②	1V [11V]
③	0V
⑤	7V
⑥	7V
⑦	1V [11V]

IC552

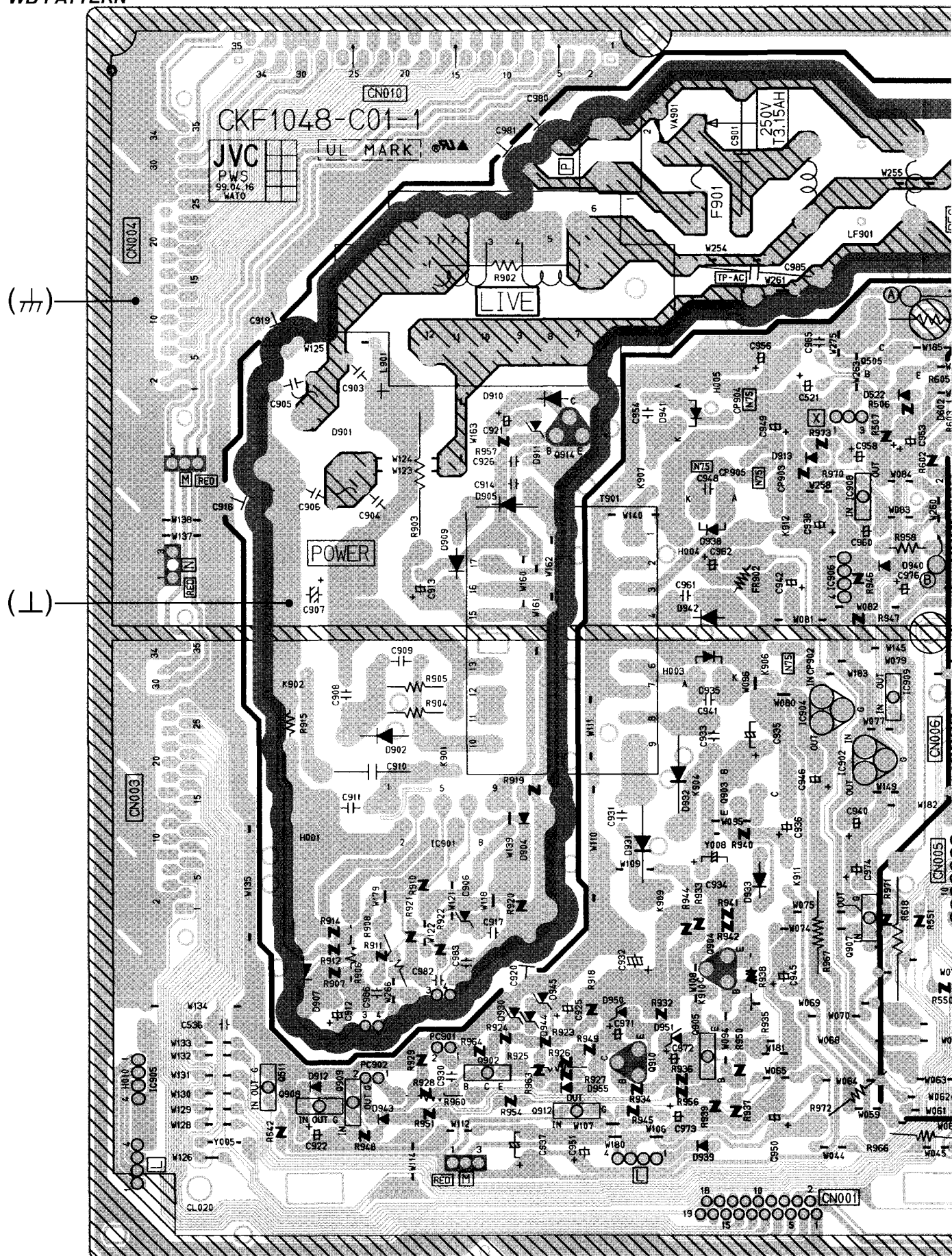
INPUT			OUTPUT	
Ain	Bin	CD	Q	\bar{Q}
	H	H		
	L	H	L	H
H		H	L	H
L		H		

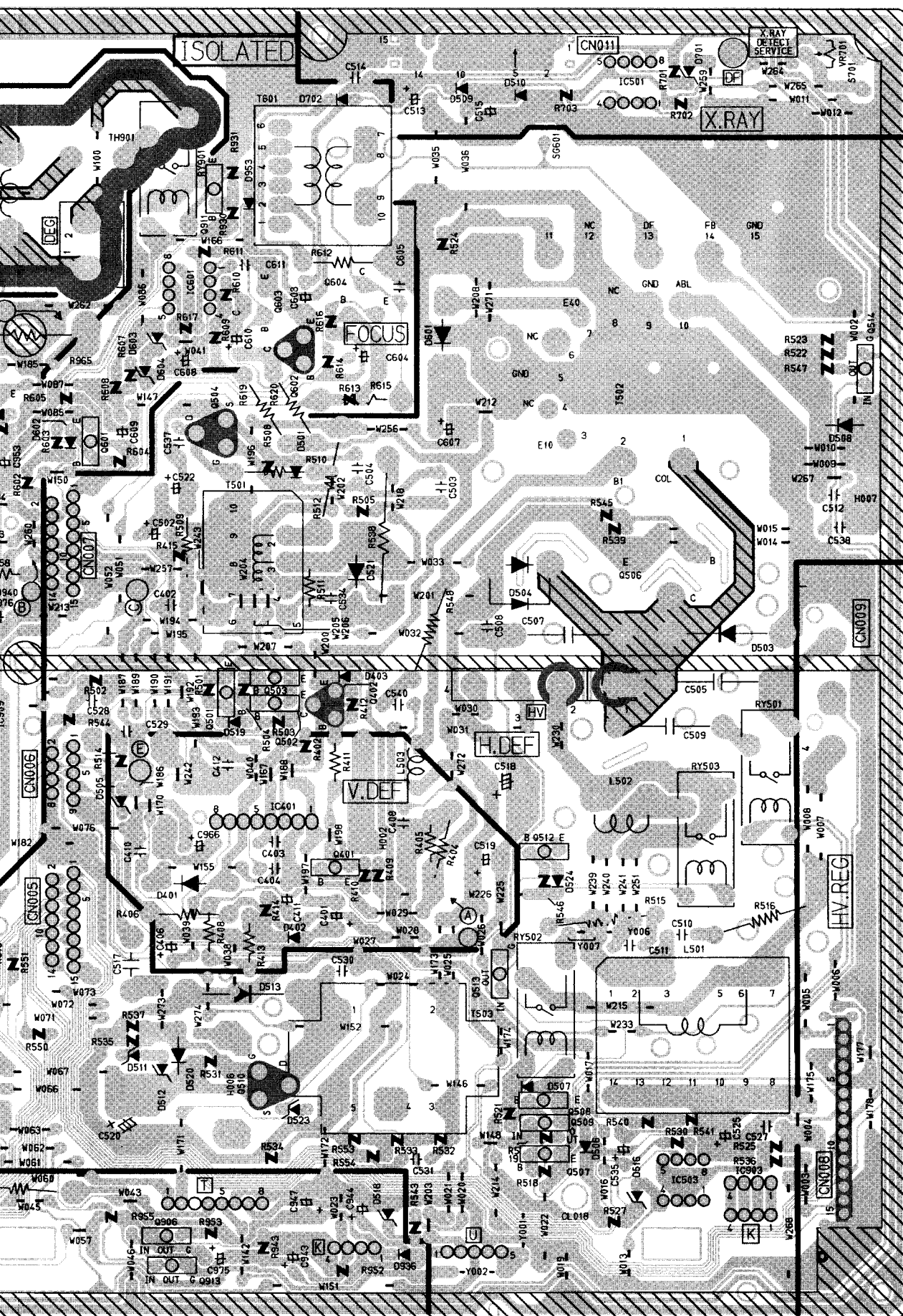


fH 水平 周波数	S corre 0 Q564 GATE IC553 ⑦	S corre 1 Q565 GATE IC553 ④	S corre 2 Q566 GATE IC554 ⑦	S corre 3 Q567 GATE IC554 ④
~ 19.2 kHz	H	H	H	H
~ 25 kHz	H	L	L	H
~ 27 kHz	L	L	L	H
~ 29	H	H	H	L
~ 32.4 kHz	L	H	H	L
~ 34.4 kHz	H	L	H	L
~ 39 kHz	L	L	H	L
~ 45 kHz	H	H	L	L
~ 52 kHz	L	H	L	L
~ 58 kHz	H	L	L	L
~ 64 kHz	L	L	L	L

PATTERN DIAGRAMS

MAIN PWB PATTERN

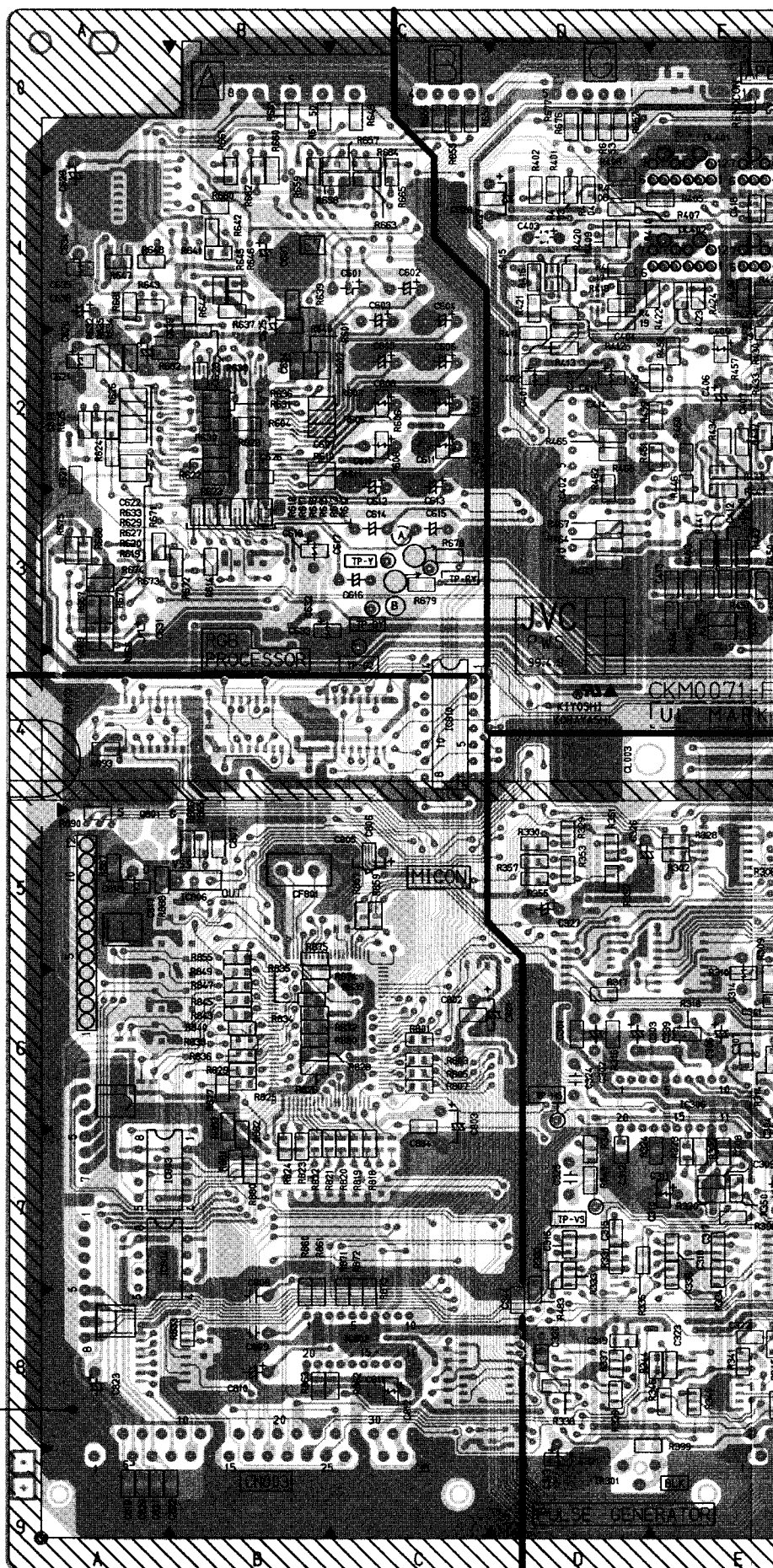
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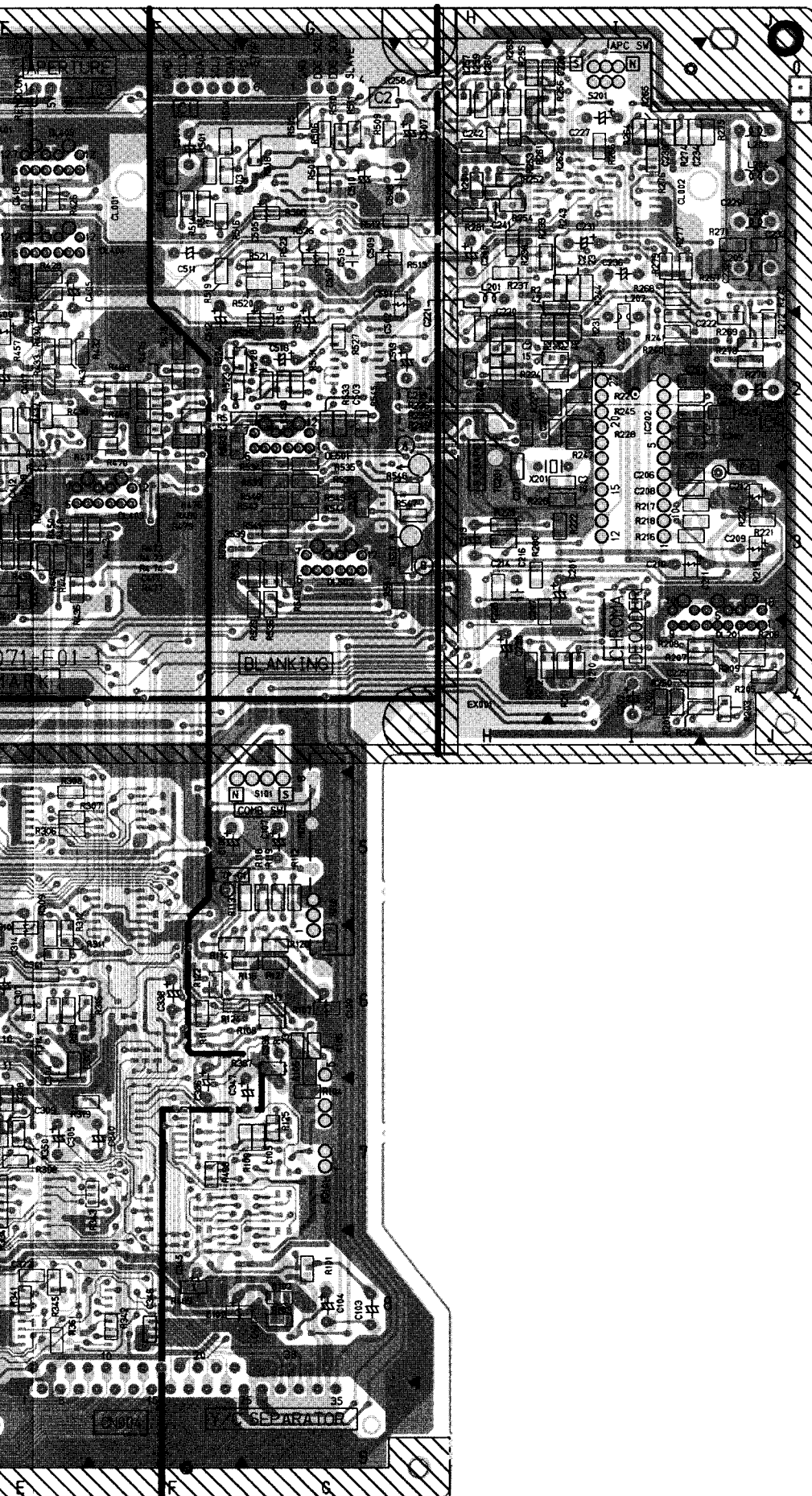


SIGNAL PWB PATTERN (SOLDERING SIDE)

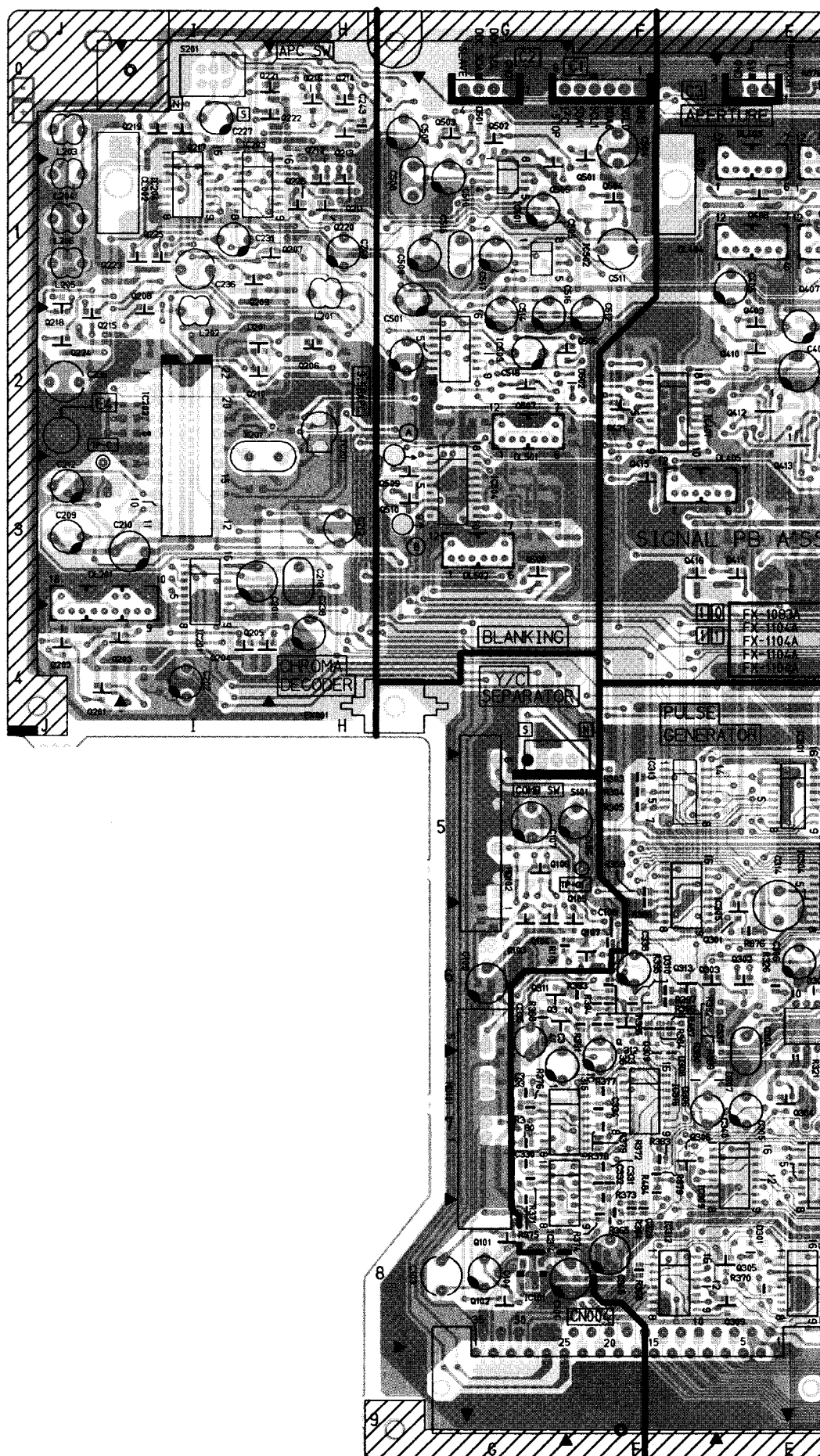
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FRONT

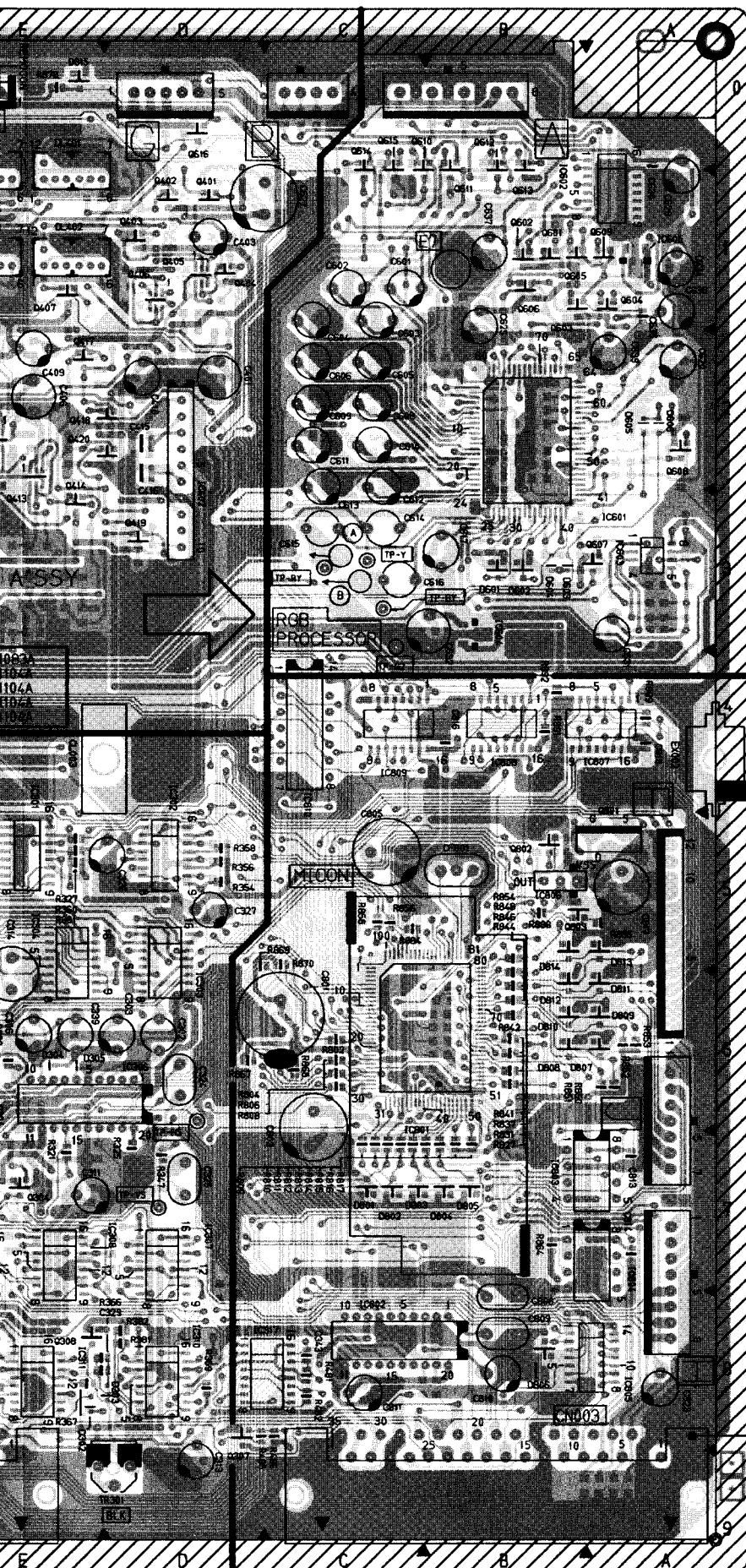
(H)






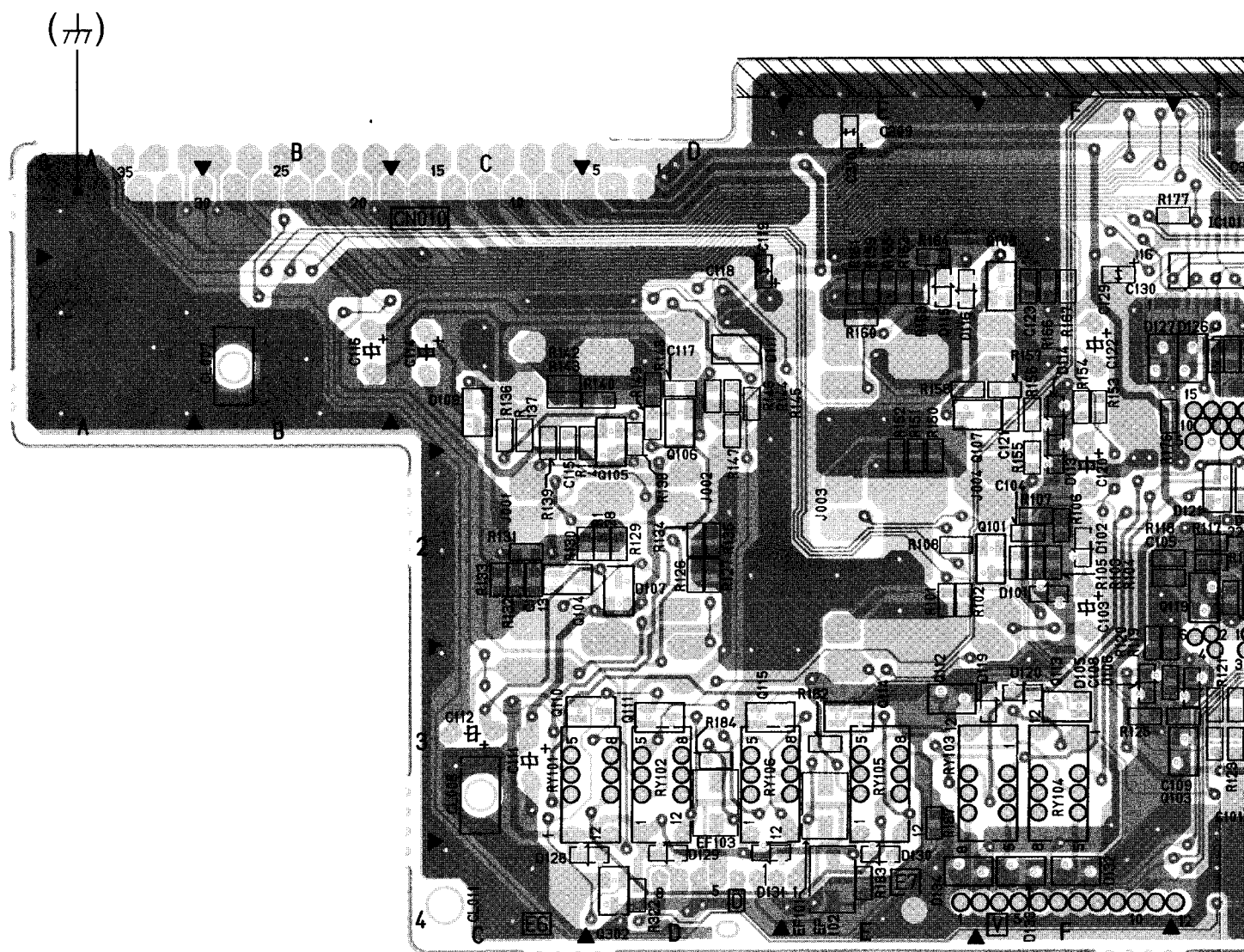
SIGNAL PWB PATTERN (PARTS SIDE)



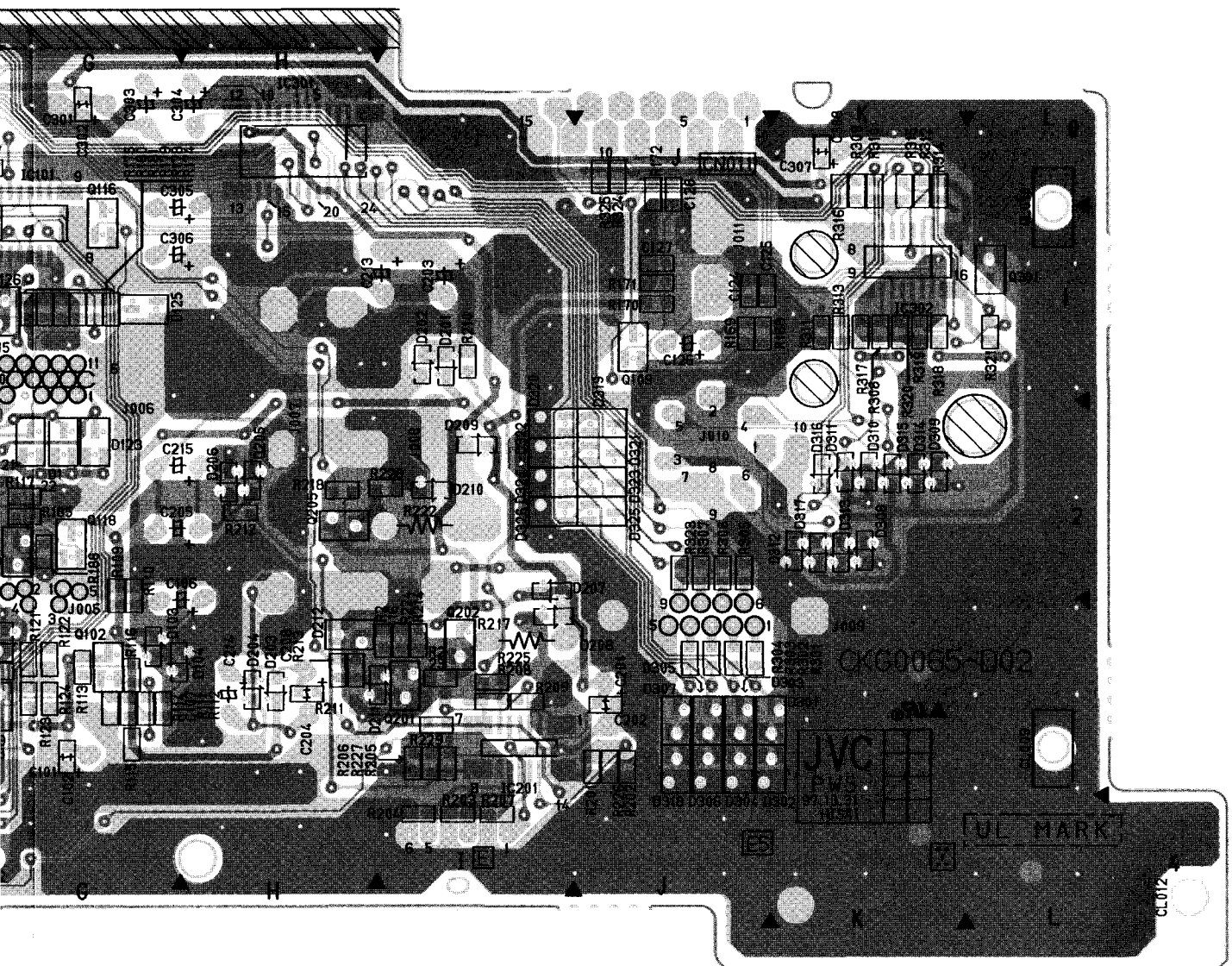


TOP
 FRONT

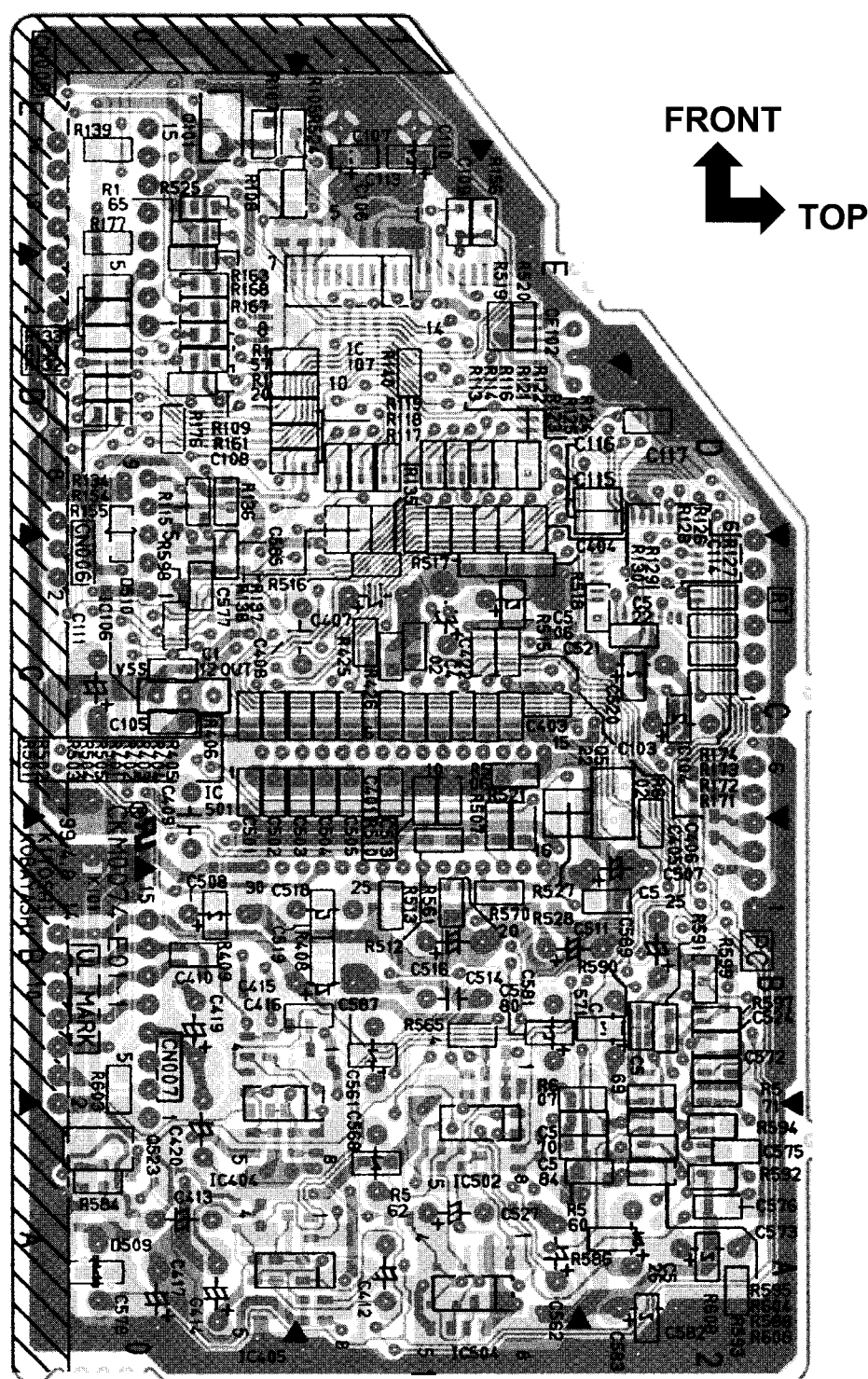
INPUT PWB PATTERN



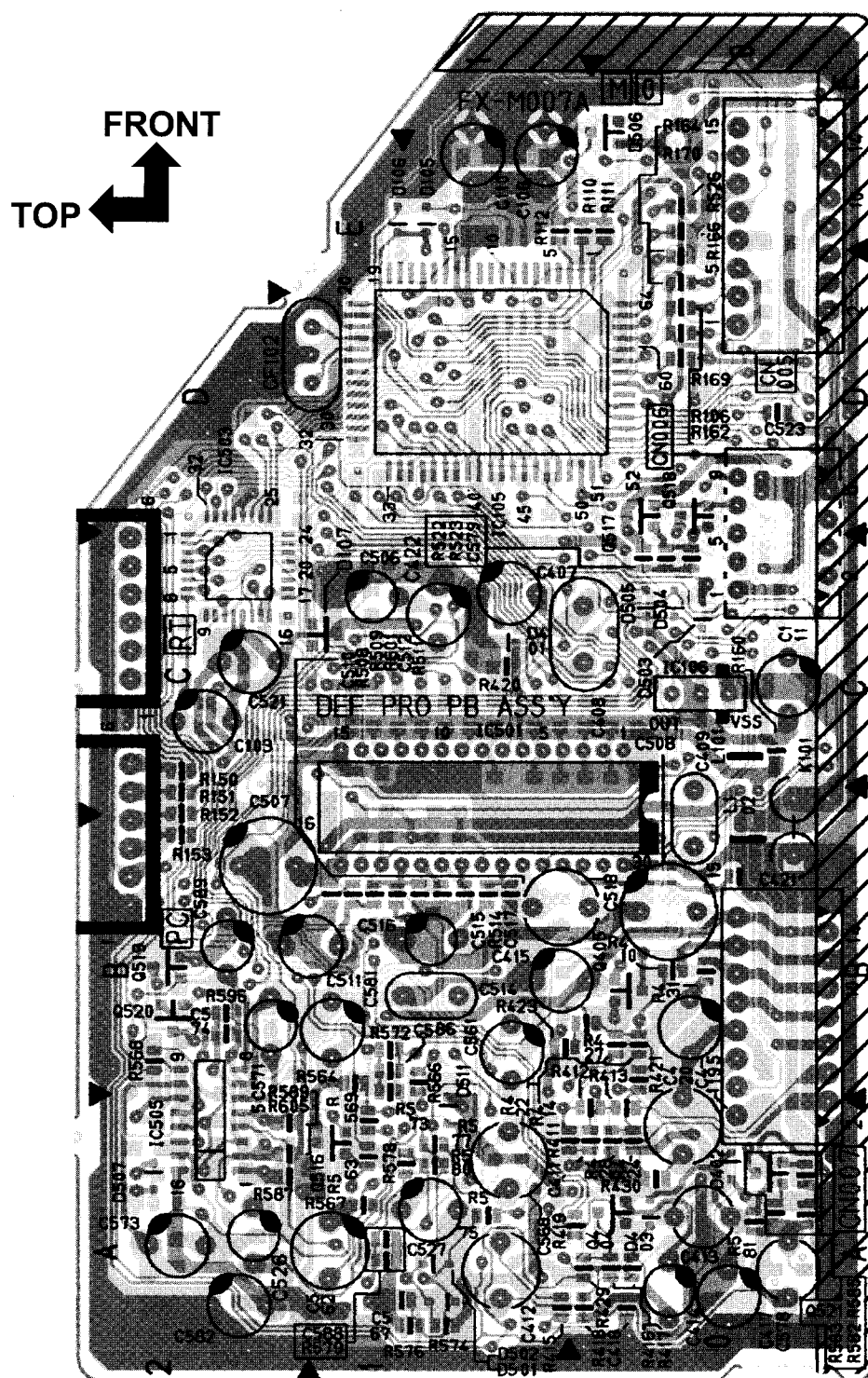
↓
TOP



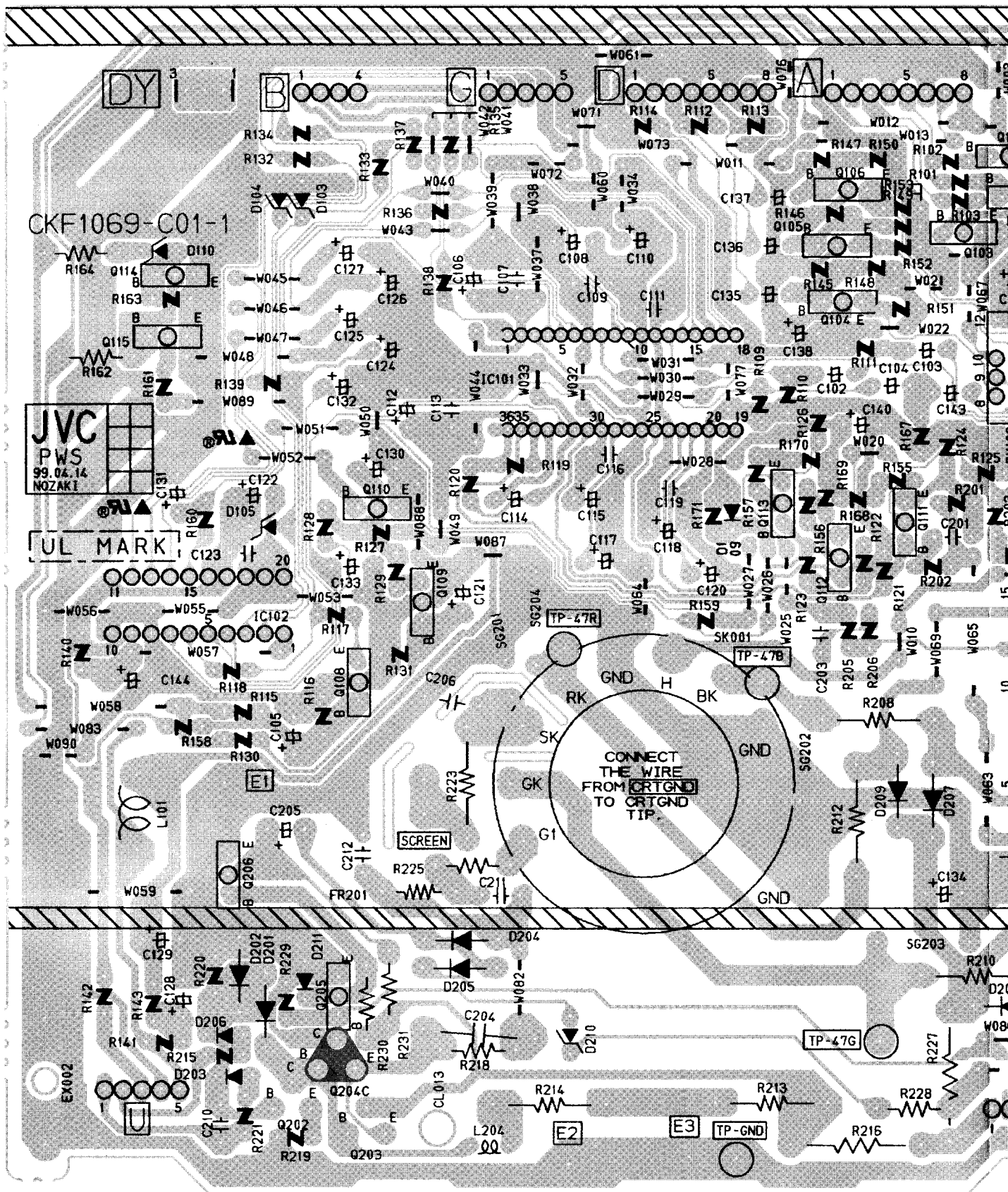
DEF PRO MODULE PWB PATTERN (SOLDERING SIDE)

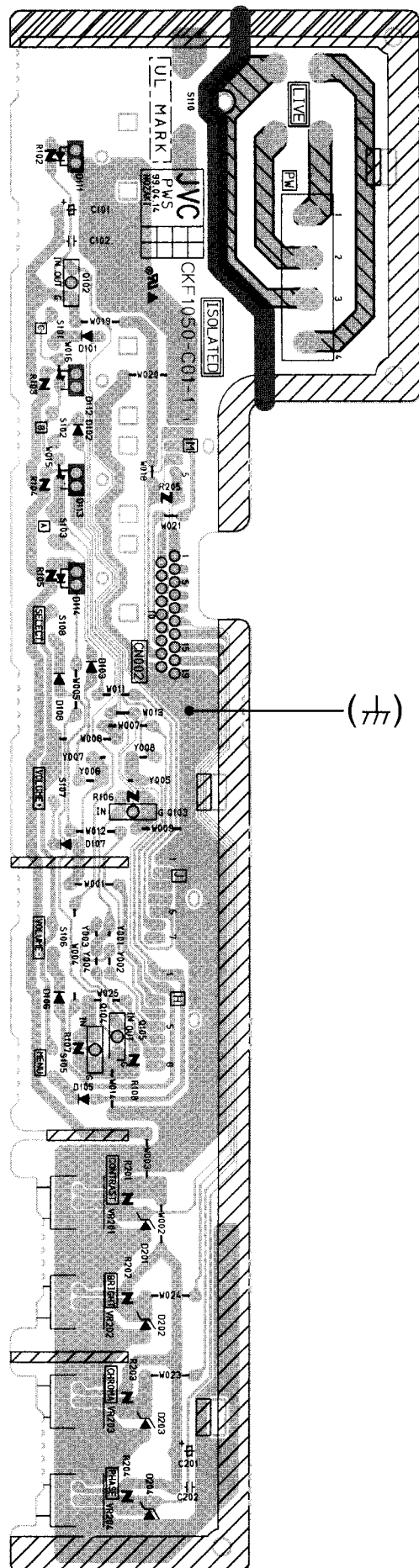


(PARTS SIDE)

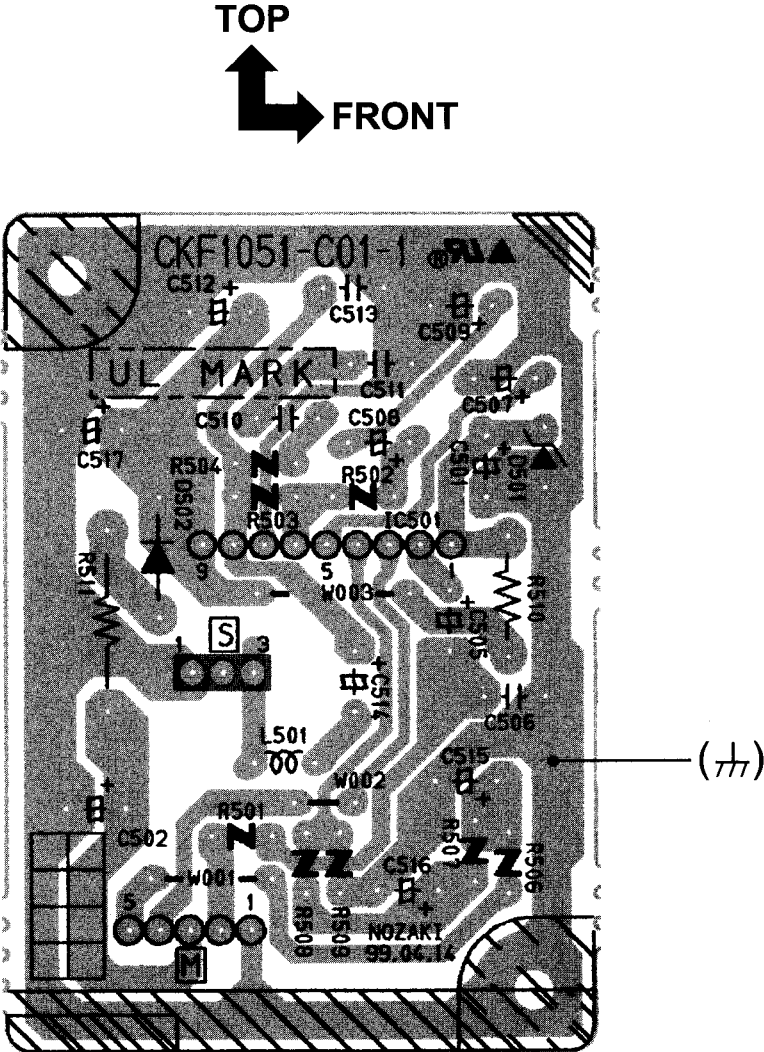


CRT SOCKET PWB PATTERN

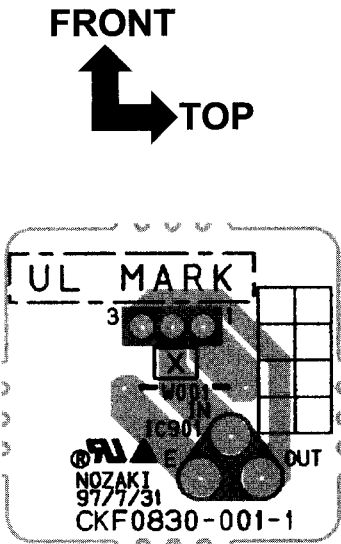




AUDIO PWB PATTERN



SUB POWER PWB PATTERN



PARTS LIST

CAUTION

- The parts identified by the \triangle symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30%	+50%	+80%	+100%
						-10%	-10%	-20%	-0%

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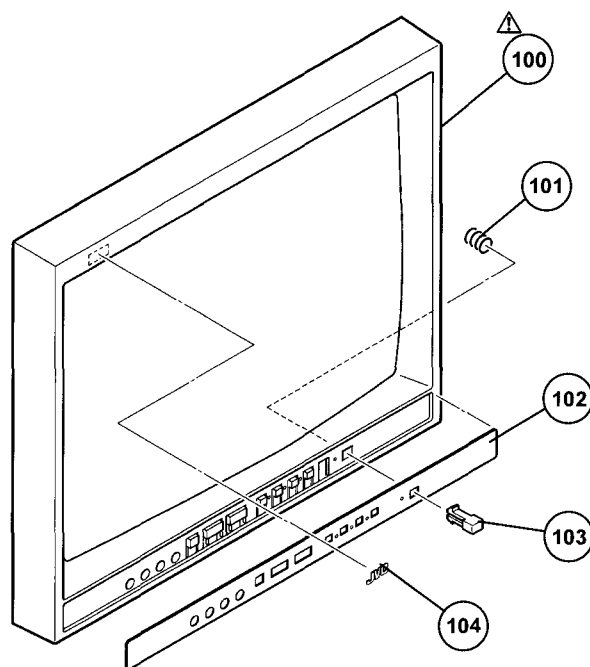
USING P.W. BOARD

P.W.B ASS'Y \ Model	DT-V2000SU/A
SIGNAL PWB	FX-1123A
MAIN PWB	FX-2056A
SUB DEF PWB	FX-2107A
CRT SOCKET PWB	FX-3055A
FRONT CONTROL PWB	FX-4059A
INPUT PWB	FX-6063A
AUDIO PWB	FX-8012A
SUB POWER PWB	FX-9057A
DEF PRO MODULE PWB	FX-M013A

EXPLODED VIEW PARTS LIST I

△ Ref. No.	Part No.	Part Name	Description	Local
△ 100	CM12969-A0K-M0	FRONT PANEL ASSY	Inc. No. 101~104	
101	CM46757-001	SPRING		
102	LC20260-003A	CONTROL SHEET		
103	CM46756-A01	POWER KNOB		
104	CM48149-A01	JVC MARK		

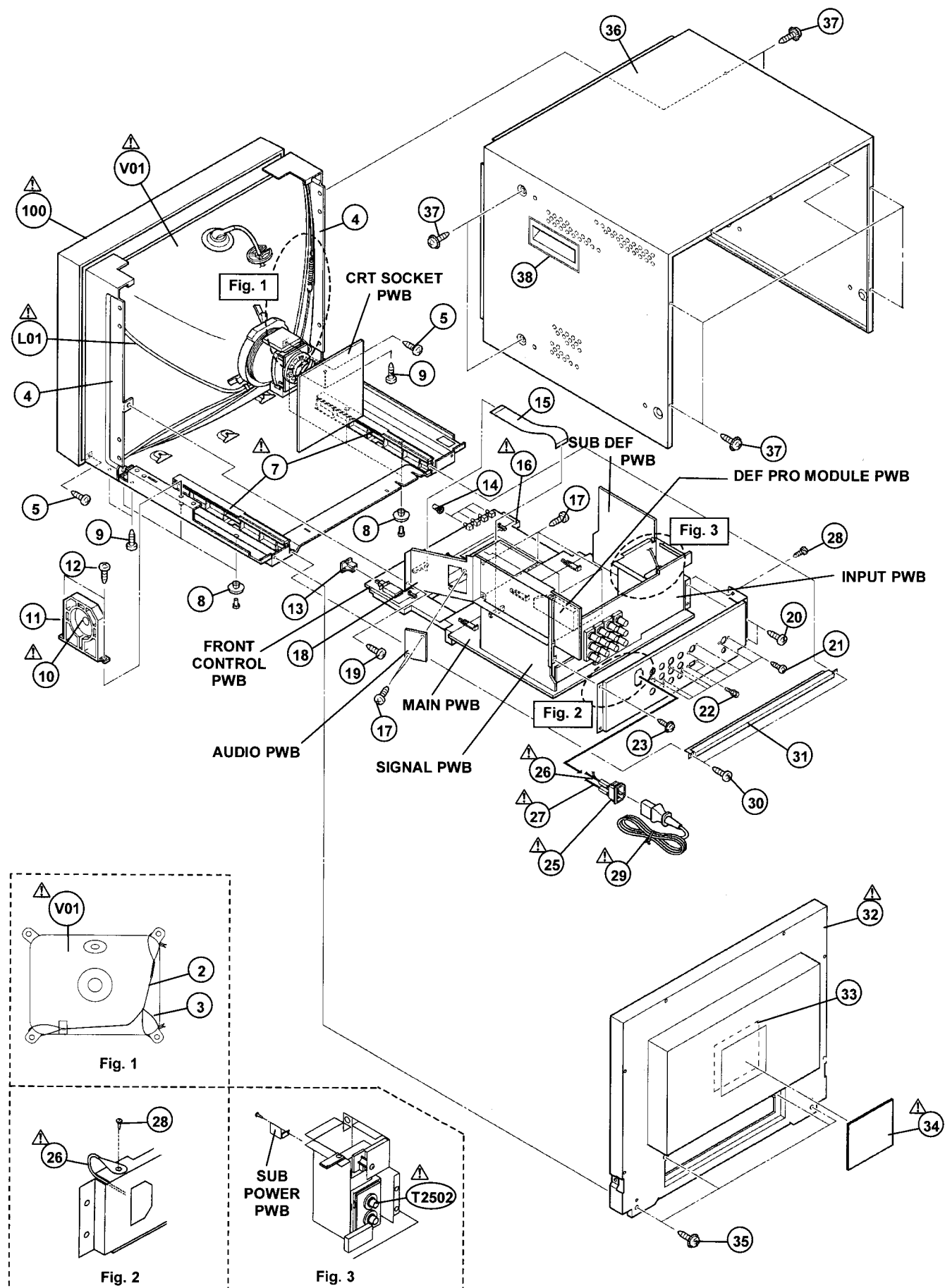
EXPLODED VIEW I



EXPLODED VIEW PARTS LIST II

△ Ref. No.	Part No.	Part Name	Description	Local
△ L01	QQW0030-001	DEG COIL		
△ V01	M51LCJ183X85 (F)	PICTURE TUBE (ITC	(len. DY, PC, WED)	
△ T2502	QQH0049-001	FB TRANSF.	(Wihthin MAIN PWB)	
2	CHGB0029-0D-N	BRAIDED ASSY		
3	CHGB0017-0C-N	BRAIDED WIRE	(SUB)	
4	LC10356-001B	SIDE FRAME	(×2)	
5	QYSBSF4012Z	TAPPING SCREW	(×2)	
△ 7	CM23164-C01-V0	CHASSIS RAIL	(×2)	
8	CM47686-00A	FOOT	(×6)	
9	CM44287-00C	ASSY SCREW	(×4)	
△ 10	CEBSS08P-01KJ2	SPEAKER	SP01	
11	CM23137-B01	SPEAKER HOLDER		
12	QYSBSF4012Z	TAPPING SCREW	(×2)	
13	CM48241-001	KNOB CAP		
14	CM46758-004	VOLUME KNOB	(×4)	
15	CHFB119-20BD-N	FFC WIRE		
△ 16	CM12968-A01	CONNECT BASE		
17	QYSBSGG3008Z	TAPPING SCREW	(×6)	
18	LC10359-001A	SIGNAL PB BKT		
19	QYSBSF4012Z	TAPPING SCREW		
20	QYSBSGG3008Z	TAPPING SCREW	(×2)	
21	SDSF3010M	TAPPING SCREW	(×8) Within INPUT PWB	
22	QNB0036-001	RETAINER	(×2) Within INPUT PWB	
23	CM44287-00B	ASSY SCREW		
△ 25	QMCB004-001	3P INLET (AC INLET)		
△ 26	CHGT0014-BA-G	RECEP WIRE ASSY		
△ 27	WJJ0040-001A	E-SI C WIRE C-C		
28	CM44287-00B	ASSY SCREW		
△ 29	QMP1110-224K	POWER CORD		
30	QYSBSF4012Z	TAPPING SCREW	(×2)	
31	LC20278-001C	SUPPORT BRACKET		
△ 32	LC10357-001D	REAR PANEL		
33	CM36241-011	WARNING LABEL		
△ 34	LC20135-008A-0L	ROLL R LABEL		
35	CM44287-00C	ASSY SCREW	(×4)	
36	CM12975-007	TOP COVER	(SERVICE)	
37	CM44287-00C	ASSY SCREW	(×10)	
38	CM35326-003	HANDLE	(×2)	

EXPLODED VIEW II



PRINTED WIRING BOARD PARTS LIST

SIGNAL PW BOARD ASS'Y (FX-1123A)

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1101	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R1102	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1103	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1104	NRSA02J-272X	MG R	2.7kΩ 1/10W J	
R1105	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1106	NRSA02J-101X	MG R	100Ω 1/10W J	
R1107	NRSA02J-392X	MG R	3.9kΩ 1/10W J	
R1110-13	NRSA02J-102X	MG R	1kΩ 1/10W J	
R1115	NRSA02J-102X	MG R	1kΩ 1/10W J	
R1116	NRSA02J-101X	MG R	100Ω 1/10W J	
R1117	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1118	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1119	NRSA02J-122X	MG R	1.2kΩ 1/10W J	
R1120	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R1121	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1122	NRSA02J-561X	MG R	560Ω 1/10W J	
R1123	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R1124	NRSA02J-101X	MG R	100Ω 1/10W J	
R1125	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
R1201	NRSA02J-273X	MG R	27kΩ 1/10W J	
R1202	NRSA02J-153X	MG R	15kΩ 1/10W J	
R1203	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1204	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1205	NRSA02J-561X	MG R	560Ω 1/10W J	
R1206	NRSA02J-102X	MG R	1kΩ 1/10W J	
R1207	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R1208	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1209-10	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1211-12	NRSA02J-562X	MG R	5.6kΩ 1/10W J	
R1213	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1214	NRSA02J-471X	MG R	470Ω 1/10W J	
R1215	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1216	NRSA02J-562X	MG R	5.6kΩ 1/10W J	
R1217	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R1219	NRSA02J-224X	MG R	220kΩ 1/10W J	
R1220	NRSA02J-183X	MG R	18kΩ 1/10W J	
R1221	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1222	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1223	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1224	NRSA02J-273X	MG R	27kΩ 1/10W J	
R1225	NRSA02J-684X	MG R	680kΩ 1/10W J	
R1226	NRSA02J-102X	MG R	1kΩ 1/10W J	
R1227	NRSA02J-822X	MG R	8.2kΩ 1/10W J	
R1228	NRSA02J-392X	MG R	3.9kΩ 1/10W J	
R1229	NRSA02J-561X	MG R	560Ω 1/10W J	
R1230	NRSA02J-272X	MG R	2.7kΩ 1/10W J	
R1231	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R1232	NRSA02J-272X	MG R	2.7kΩ 1/10W J	
R1233-34	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1235-36	NRSA02J-102X	MG R	1kΩ 1/10W J	
R1237	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1238-39	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1240	NRSA02J-561X	MG R	560Ω 1/10W J	
R1241	NRSA02J-102X	MG R	1kΩ 1/10W J	
R1242	NRSA02J-122X	MG R	1.2kΩ 1/10W J	
R1243	NRSA02J-562X	MG R	5.6kΩ 1/10W J	
R1244	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1247	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1248	NRSA02J-123X	MG R	12kΩ 1/10W J	
R1249	NRSA02J-822X	MG R	8.2kΩ 1/10W J	
R1251-56	NRSA02J-272X	MG R	2.7kΩ 1/10W J	
R1257	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1258	NRSA02J-473X	MG R	47kΩ 1/10W J	
R1259	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1260	NRSA02J-222X	MG R	2.2kΩ 1/10W J	

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1261	NRSA02J-821X	MG R	820Ω 1/10W J	
R1262	NRSA02J-561X	MG R	560Ω 1/10W J	
R1264	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1265	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1266	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R1267	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1268	NRSA02J-333X	MG R	33kΩ 1/10W J	
R1269-70	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1271	NRSA02J-821X	MG R	820Ω 1/10W J	
R1272	NRSA02J-561X	MG R	560Ω 1/10W J	
R1274	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1275	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1276	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R1277-79	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1280-81	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1301-08	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1309	NRSA02J-822X	MG R	8.2kΩ 1/10W J	
R1310	NRSA02J-272X	MG R	2.7kΩ 1/10W J	
R1311	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R1312	NRSA02J-122X	MG R	1.2kΩ 1/10W J	
R1313-15	NRSA02J-272X	MG R	2.7kΩ 1/10W J	
R1316	NRSA02J-104X	MG R	100kΩ 1/10W J	
R1317-19	NRSA02J-271X	MG R	270Ω 1/10W J	
R1320	NRSA02J-473X	MG R	47kΩ 1/10W J	
R1321	NRSA02J-273X	MG R	27kΩ 1/10W J	
R1322-24	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R1325	NRSA02J-183X	MG R	18kΩ 1/10W J	
R1326	NRSA02J-822X	MG R	8.2kΩ 1/10W J	
R1327-30	NRSA02J-151X	MG R	150Ω 1/10W J	
R1331	NRSA02J-333X	MG R	33kΩ 1/10W J	
R1332	NRSA02J-104X	MG R	100kΩ 1/10W J	
R1333	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1334	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1335	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1336	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1337	NRSA02J-123X	MG R	12kΩ 1/10W J	
R1338	NRSA02J-153X	MG R	15kΩ 1/10W J	
R1339-40	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1341	NRSA02J-333X	MG R	33kΩ 1/10W J	
R1342	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1343	NRSA02J-101X	MG R	100Ω 1/10W J	
R1344	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1347	NRSA02J-123X	MG R	12kΩ 1/10W J	
R1348	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R1349	NRSA02J-183X	MG R	18kΩ 1/10W J	
R1350	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
R1351-58	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1359-60	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R1361	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1364	NRSA02J-392X	MG R	3.9kΩ 1/10W J	
R1365	NRSA02J-562X	MG R	5.6kΩ 1/10W J	
R1366	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1367-68	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1369	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R1370	NRSA02J-103X	MG R	10kΩ 1/10W J	
R1371	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1372	NRSA02J-393X	MG R	39kΩ 1/10W J	
R1373	NRSA02J-123X	MG R	12kΩ 1/10W J	
R1374	NRSA02J-473X	MG R	47kΩ 1/10W J	
R1375	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1376	NRSA02J-223X	MG R	22kΩ 1/10W J	
R1377	NRSA02J-104X	MG R	100kΩ 1/10W J	
R1378-79	NRSA02J-473X	MG R	47kΩ 1/10W J	
R1380	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
R1381	NRSA02J-562X	MG R	5.6kΩ 1/10W J	

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1382 NRSA02J-392X MG R 3.9kΩ 1/10W J
 R1383-85 NRSA02J-223X MG R 22kΩ 1/10W J
 R1387 NRSA02J-683X MG R 68kΩ 1/10W J
 R1388 NRSA02J-184X MG R 180kΩ 1/10W J
 R1389 NRSA02J-562X MG R 5.6kΩ 1/10W J
 R1390 NRSA02J-104X MG R 100kΩ 1/10W J
 R1391 NRSA02J-684X MG R 680kΩ 1/10W J
 R1392 NRSA02J-223X MG R 22kΩ 1/10W J

R1393-94 NRSA02J-103X MG R 10kΩ 1/10W J
 R1395 NRSA02J-223X MG R 22kΩ 1/10W J
 R1396 NRSA02J-183X MG R 18kΩ 1/10W J
 R1397 NRSA02J-103X MG R 10kΩ 1/10W J
 R1398 NRSA02J-182X MG R 1.8kΩ 1/10W J
 R1399 NRSA02J-080X MG R 0.0Ω 1/10W J
 R1401 NRSA02J-223X MG R 22kΩ 1/10W J
 R1402 NRSA02J-273X MG R 27kΩ 1/10W J

R1403 NRSA02J-272X MG R 2.7kΩ 1/10W J
 R1404 NRSA02J-471X MG R 470Ω 1/10W J
 R1405 NRSA02J-101X MG R 100Ω 1/10W J
 R1406 NRSA02J-102X MG R 1kΩ 1/10W J
 R1407 NRSA02J-272X MG R 2.7kΩ 1/10W J
 R1408 NRSA02J-471X MG R 470Ω 1/10W J
 R1409 NRSA02J-151X MG R 150Ω 1/10W J
 R1410 NRSA02J-222X MG R 2.2kΩ 1/10W J

R1412 NRSA02J-122X MG R 1.2kΩ 1/10W J
 R1413 NRSA02J-182X MG R 1.8kΩ 1/10W J
 R1414 NRSA02J-122X MG R 1.2kΩ 1/10W J
 R1415-16 NRSA02J-181X MG R 180Ω 1/10W J
 R1417 NRSA02J-103X MG R 10kΩ 1/10W J
 R1418 NRSA02J-102X MG R 1kΩ 1/10W J
 R1419 NRSA02J-181X MG R 180Ω 1/10W J
 R1420 NRSA02J-222X MG R 2.2kΩ 1/10W J

R1421-22 NRSA02J-151X MG R 150Ω 1/10W J
 R1423 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1424 NRSA02J-471X MG R 470Ω 1/10W J
 R1426 NRSA02J-562X MG R 5.6kΩ 1/10W J
 R1427 NRSA02J-183X MG R 18kΩ 1/10W J
 R1428 NRSA02J-273X MG R 27kΩ 1/10W J
 R1429 NRSA02J-102X MG R 1kΩ 1/10W J
 R1431 NRSA02J-681X MG R 680Ω 1/10W J

R1432 NRSA02J-151X MG R 150Ω 1/10W J
 R1433 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1434-35 NRSA02J-102X MG R 1kΩ 1/10W J
 R1436 NRSA02J-392X MG R 3.9kΩ 1/10W J
 R1437-38 NRSA02J-331X MG R 330Ω 1/10W J
 R1440 NRSA02J-181X MG R 180Ω 1/10W J
 R1441 NRSA02J-102X MG R 1kΩ 1/10W J
 R1442 NRSA02J-103X MG R 10kΩ 1/10W J

R1443 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1444-45 NRSA02J-151X MG R 150Ω 1/10W J
 R1446 NRSA02J-681X MG R 680Ω 1/10W J
 R1447 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1449 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1450 NRSA02J-152X MG R 1.5kΩ 1/10W J
 R1451 NRSA02J-472X MG R 4.7kΩ 1/10W J
 R1452 NRSA02J-122X MG R 1.2kΩ 1/10W J

R1453 NRSA02J-272X MG R 2.7kΩ 1/10W J
 R1455 NRSA02J-392X MG R 3.9kΩ 1/10W J
 R1456 NRSA02J-562X MG R 5.6kΩ 1/10W J
 R1457 NRSA02J-822X MG R 8.2kΩ 1/10W J
 R1458 NRSA02J-182X MG R 1.8kΩ 1/10W J
 R1459 NRSA02J-152X MG R 1.5kΩ 1/10W J
 R1460 NRSA02J-103X MG R 10kΩ 1/10W J
 R1462 NRSA02J-332X MG R 3.3kΩ 1/10W J

R1463 NRSA02J-392X MG R 3.9kΩ 1/10W J
 R1464 NRSA02J-391X MG R 390Ω 1/10W J
 R1465 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1466 NRSA02J-153X MG R 15kΩ 1/10W J
 R1467 NRSA02J-822X MG R 8.2kΩ 1/10W J

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1468-71 NRSA02J-101X MG R 100Ω 1/10W J
 R1472 NRSA02J-103X MG R 10kΩ 1/10W J
 R1473-74 NRSA02J-101X MG R 100Ω 1/10W J
 R1475 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1476 NRSA02J-472X MG R 4.7kΩ 1/10W J
 R1477 NRSA02J-103X MG R 10kΩ 1/10W J
 R1478 NRSA02J-562X MG R 5.6kΩ 1/10W J
 R1479 NRSA02J-473X MG R 47kΩ 1/10W J

R1480 NRSA02J-562X MG R 5.6kΩ 1/10W J
 R1481 NRSA02J-124X MG R 120kΩ 1/10W J
 R1482 NRSA02J-223X MG R 22kΩ 1/10W J
 R1483 NRSA02J-563X MG R 56kΩ 1/10W J
 R1484 NRSA02J-562X MG R 5.6kΩ 1/10W J
 R1485 NRSA02J-682X MG R 6.8kΩ 1/10W J
 R1486 NRSA02J-152X MG R 1.5kΩ 1/10W J
 R1487 NRSA02J-223X MG R 22kΩ 1/10W J

R1488 NRSA02J-182X MG R 1.8kΩ 1/10W J
 R1501 NRSA02J-273X MG R 27kΩ 1/10W J
 R1502 NRSA02J-153X MG R 15kΩ 1/10W J
 R1503 NRSA02J-102X MG R 1kΩ 1/10W J
 R1504 NRSA02J-391X MG R 390Ω 1/10W J
 R1505-06 NRSA02J-102X MG R 1kΩ 1/10W J
 R1507 NRSA02J-103X MG R 10kΩ 1/10W J
 R1508 NRSA02J-102X MG R 1kΩ 1/10W J

R1509-10 NRSA02J-473X MG R 47kΩ 1/10W J
 R1511 NRSA02J-104X MG R 100kΩ 1/10W J
 R1512 NRSA02J-123X MG R 12kΩ 1/10W J
 R1513 NRSA02J-103X MG R 10kΩ 1/10W J
 R1514 NRSA02J-273X MG R 27kΩ 1/10W J
 R1515 NRSA02J-153X MG R 15kΩ 1/10W J
 R1516 NRSA02J-102X MG R 1kΩ 1/10W J
 R1517 NRSA02J-391X MG R 390Ω 1/10W J

R1518-19 NRSA02J-102X MG R 1kΩ 1/10W J
 R1520 NRSA02J-103X MG R 10kΩ 1/10W J
 R1521 NRSA02J-102X MG R 1kΩ 1/10W J
 R1522-23 NRSA02J-473X MG R 47kΩ 1/10W J
 R1524 NRSA02J-104X MG R 100kΩ 1/10W J
 R1525 NRSA02J-123X MG R 12kΩ 1/10W J
 R1526 NRSA02J-103X MG R 10kΩ 1/10W J
 R1527 NRSA02J-393X MG R 39kΩ 1/10W J

R1528 NRSA02J-123X MG R 12kΩ 1/10W J
 R1529 NRSA02J-333X MG R 33kΩ 1/10W J
 R1530 NRSA02J-123X MG R 12kΩ 1/10W J
 R1531-32 NRSA02J-471X MG R 470Ω 1/10W J
 R1533-34 NRSA02J-102X MG R 1kΩ 1/10W J
 R1535 NRSA02J-101X MG R 100Ω 1/10W J
 R1536-37 NRSA02J-102X MG R 1kΩ 1/10W J
 R1538 NRSA02J-101X MG R 100Ω 1/10W J

R1539-42 NRSA02J-333X MG R 33kΩ 1/10W J
 R1543-44 NRSA02J-101X MG R 100Ω 1/10W J
 R1545 NRSA02J-222X MG R 2.2kΩ 1/10W J
 R1546-47 NRSA02J-392X MG R 3.9kΩ 1/10W J
 R1550-51 NRSA02J-080X MG R 0.0Ω 1/10W J
 R1601 NRSA02J-392X MG R 3.9kΩ 1/10W J
 R1602 NRSA02J-272X MG R 2.7kΩ 1/10W J
 R1604 NRSA02J-103X MG R 10kΩ 1/10W J

R1605 NRSA02J-392X MG R 3.9kΩ 1/10W J
 R1606 NRSA02J-123X MG R 12kΩ 1/10W J
 R1607 NRSA02J-184X MG R 180kΩ 1/10W J
 R1608 NRSA02J-105X MG R 1MΩ 1/10W J
 R1609 NRV402D-392X MF R 3.9kΩ 1/10W D
 R1610 NRSA02J-183X MG R 18kΩ 1/10W J
 R1611 NRV402D-222X MF R 2.2kΩ 1/10W D
 R1613 NRSA02J-103X MG R 10kΩ 1/10W J

R1615-16 NRSA02J-101X MG R 100Ω 1/10W J
 R1617-20 NRSA02J-103X MG R 10kΩ 1/10W J
 R1622 NRSA02J-472X MG R 4.7kΩ 1/10W J
 R1623 NRSA02J-682X MG R 6.8kΩ 1/10W J
 R1624 NRSA02J-152X MG R 1.5kΩ 1/10W J

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1625	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1626	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1627-31	NRSA02J-103X	MG R	10kΩ 1/10W J
R1632	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1633	NRSA02J-103X	MG R	10kΩ 1/10W J
R1634	NRSA02J-102X	MG R	1kΩ 1/10W J
R1635-36	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1637-39	NRSA02J-222X	MG R	2.2kΩ 1/10W J

R1640	NRSA02J-103X	MG R	10kΩ 1/10W J
R1641-46	NRSA02J-102X	MG R	1kΩ 1/10W J
R1647	NRSA02J-103X	MG R	10kΩ 1/10W J
R1648	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1649-56	NRSA02J-101X	MG R	100Ω 1/10W J
R1657	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1658	NRSA02J-271X	MG R	270Ω 1/10W J
R1659-60	NRSA02J-272X	MG R	2.7kΩ 1/10W J

R1661	NRSA02J-271X	MG R	270Ω 1/10W J
R1662-63	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1664	NRSA02J-271X	MG R	270Ω 1/10W J
R1665	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1666	NRSA02J-153X	MG R	15kΩ 1/10W J
R1667	NRSA02J-273X	MG R	27kΩ 1/10W J
R1668	NRSA02J-822X	MG R	8.2kΩ 1/10W J
R1669	NRSA02J-222X	MG R	2.2kΩ 1/10W J

R1670	NRSA02J-683X	MG R	68kΩ 1/10W J
R1671	NRSA02J-103X	MG R	10kΩ 1/10W J
R1673	NRSA02J-123X	MG R	12kΩ 1/10W J
R1674	NRSA02J-153X	MG R	15kΩ 1/10W J
R1675	NRSA02J-183X	MG R	18kΩ 1/10W J
R1677	NRSA02J-101X	MG R	100Ω 1/10W J
R1678-79	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R1680-82	NRSA02J-102X	MG R	1kΩ 1/10W J

R1801-10	NRSA02J-101X	MG R	100Ω 1/10W J
R1811-15	NRSA02J-331X	MG R	330Ω 1/10W J
R1818-22	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1823-25	NRSA02J-103X	MG R	10kΩ 1/10W J
R1826-32	NRSA02J-101X	MG R	100Ω 1/10W J
R1833-34	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1835-49	NRSA02J-101X	MG R	100Ω 1/10W J
R1850-53	NRSA02J-103X	MG R	10kΩ 1/10W J

R1854-59	NRSA02J-101X	MG R	100Ω 1/10W J
R1860	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1861	NRSA02J-223X	MG R	22kΩ 1/10W J
R1862-63	NRSA02J-101X	MG R	100Ω 1/10W J
R1864-65	NRSA02J-103X	MG R	10kΩ 1/10W J
R1866	NRSA02J-473X	MG R	47kΩ 1/10W J
R1867-70	NRSA02J-103X	MG R	10kΩ 1/10W J
R1871-73	NRSA02J-473X	MG R	47kΩ 1/10W J

R1874	NRSA02J-101X	MG R	100Ω 1/10W J
R1875-77	NRSA02J-103X	MG R	10kΩ 1/10W J
R1878	NRSA02J-101X	MG R	100Ω 1/10W J
R1879	NRSA02J-103X	MG R	10kΩ 1/10W J
R1880-84	NRSA02J-101X	MG R	100Ω 1/10W J
R1885	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1886	NRSA02J-103X	MG R	10kΩ 1/10W J
R1887-88	NRSA02J-2R2X	MG R	2.2Ω 1/10W J

R1889-91	NRSA02J-103X	MG R	10kΩ 1/10W J
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CAPACITOR

C1101	QETN1CM-107Z	E CAP.	100μF 16V M
C1102	NCB21HK-103X	C CAP.	0.01μF 50V K
C1103	QEN61CM-336Z	BP E CAP.	33μF 16V M
C1104	QETN1CM-476Z	E CAP.	47μF 16V M
C1106	QETN1CM-476Z	E CAP.	47μF 16V M
C1107	QETN1CM-107Z	E CAP.	100μF 16V M
C1109	QETN1CM-107Z	E CAP.	100μF 16V M
C1201	QETN1CM-107Z	E CAP.	100μF 16V M

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C1202	QETN1CM-476Z	E CAP.	47μF 16V M
C1203	NCB21HK-103X	C CAP.	0.01μF 50V K
C1204	NDC21HJ-221X	C CAP.	220pF 50V J
C1205	NCB21HK-273X	C CAP.	0.027μF 50V K
C1206	NDC21HJ-680X	C CAP.	68pF 50V J
C1207-08	NCB21HK-103X	C CAP.	0.01μF 50V K
C1209	QETN1HM-474Z	E CAP.	0.47μF 50V M
C1210	QETN1CM-107Z	E CAP.	100μF 16V M

C1211	NCB21HK-223X	C CAP.	0.022μF 50V K
C1212	QETN1HM-105Z	E CAP.	1μF 50V M
C1213	QEN61CM-106Z	BP E CAP.	10μF 16V M
C1214-15	NCB21HK-103X	C CAP.	0.01μF 50V K
C1216	QFLC1HJ-153Z	M CAP.	0.015μF 50V J
C1217	NDC21HJ-220X	C CAP.	22pF 50V J
C1218	NDC21HJ-470X	C CAP.	47pF 50V J
C1219	NDC21HJ-390X	C CAP.	39pF 50V J

C1220	NDC21HJ-181X	C CAP.	180pF 50V J
C1221	NDC21HJ-6R0X	C CAP.	6.0pF 50V J
C1222	NDC21HJ-390X	C CAP.	39pF 50V J
C1223	NDC21HJ-181X	C CAP.	180pF 50V J
C1224	NDC21HJ-6R0X	C CAP.	6.0pF 50V J
C1225	NDC21HJ-150X	C CAP.	15pF 50V J
C1227	QETN1CM-476Z	E CAP.	47μF 16V M
C1228	NDC21HJ-100X	C CAP.	10pF 50V J

C1229	NDC21HJ-390X	C CAP.	39pF 50V J
C1230	NDC21HJ-121X	C CAP.	120pF 50V J
C1231	QETN1CM-476Z	E CAP.	47μF 16V M
C1232	NDC21HJ-100X	C CAP.	10pF 50V J
C1233	NDC21HJ-390X	C CAP.	39pF 50V J
C1234	NDC21HJ-121X	C CAP.	120pF 50V J
C1235-36	QEN61CM-336Z	BP E CAP.	33μF 16V M
C1238	QETN1HM-106Z	E CAP.	10μF 50V M

C1240	QETN1CM-476Z	E CAP.	47μF 16V M
C1301	NCB21HK-472X	C CAP.	4700pF 50V K
C1302	QEN61CM-105Z	BP E CAP.	1μF 50V M
C1303	QETN1HM-475Z	E CAP.	4.7μF 50V M
C1304	QFLC1HJ-683Z	M CAP.	0.068μF 50V J
C1305	QETN1HM-475Z	E CAP.	4.7μF 50V M
C1306	QETN1HM-106Z	E CAP.	10μF 50V M
C1307	NCB21HK-103X	C CAP.	0.01μF 50V K

C1308	NDC21HJ-100X	C CAP.	10pF 50V J
C1309	NDC21HJ-101X	C CAP.	100pF 50V J
C1310	NCB21HK-103X	C CAP.	0.01μF 50V K
C1311	QETN1CM-476Z	E CAP.	47μF 16V M
C1312	NDC21HJ-101X	C CAP.	100pF 50V J
C1313	QETN1CM-476Z	E CAP.	47μF 16V M
C1314	QEN61CM-476Z	BP E CAP.	47μF 16V M
C1315	NDC21HJ-680X	C CAP.	68pF 50V J

C1316	NDC21HJ-391X	C CAP.	390pF 50V J
C1317	NDC21HJ-330X	C CAP.	33pF 50V J
C1318	NDC21HJ-680X	C CAP.	68pF 50V J
C1319	NDC21HJ-330X	C CAP.	33pF 50V J
C1320	NDC21HJ-820X	C CAP.	82pF 50V J
C1321	NCB21HK-103X	C CAP.	0.01μF 50V K
C1322	NCB21HK-472X	C CAP.	4700pF 50V K
C1323	NDC21HJ-220X	C CAP.	22pF 50V J

C1324	QFLC1HJ-562Z	M CAP.	5600pF 50V J
C1325	QFLC1HJ-682Z	M CAP.	6800pF 50V J
C1326	QETN1HM-106Z	E CAP.	10μF 50V M
C1327	QETN1AM-107Z	E CAP.	100μF 10V M
C1329	NDC21HJ-560X	C CAP.	56pF 50V J
C1330	NDC21HJ-390X	C CAP.	39pF 50V J
C1331	NDC21HJ-391X	C CAP.	390pF 50V J
C1332	NDC21HJ-390X	C CAP.	39pF 50V J

C1333	NDC21HJ-101X	C CAP.	100pF 50V J
C1334	NDC21HJ-391X	C CAP.	390pF 50V J
C1335	QEN61CM-106Z	BP E CAP.	10μF 16V M
C1336	QETN1HM-474Z	E CAP.	0.47μF 50V M
C1337	NCB21HK-223X	C CAP.	0.022μF 50V K
C1338	QETN1HM-105Z	E CAP.	1μF 50V M
C1339-40	QEN61CM-106Z	BP E CAP.	10μF 16V M
C1341	NDC21HJ-150X	C CAP.	15pF 50V J

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C1342	NDC21HJ-390X	C CAP.	390F	50V	J
C1343	NCB21HK-473X	C CAP.	0.047μF	50V	K
C1344	NCB21HK-682X	C CAP.	6800pF	50V	K
C1345	QETN1CM-107Z	E CAP.	100μF	16V	M
C1346	NCB21HK-223X	C CAP.	0.022μF	50V	K
C1347	QETN1CM-107Z	E CAP.	100μF	16V	M
C1401	QETN1CM-107Z	E CAP.	100μF	16V	M
C1402	NCB21HK-103X	C CAP.	0.01μF	50V	K

C1403	QETN1CM-476Z	E CAP.	47μF	16V	M
C1404	NCB21HK-472X	C CAP.	4700pF	50V	K
C1405	QETN1CM-476Z	E CAP.	47μF	16V	M
C1406	QETN1CM-107Z	E CAP.	100μF	16V	M
C1407	NCB21HK-103X	C CAP.	0.01μF	50V	K
C1408	NCB21HK-472X	C CAP.	4700pF	50V	K
C1409	QETN1CM-106Z	E CAP.	10μF	50V	M
C1410	QETN1CM-476Z	E CAP.	47μF	16V	M

C1411	NCB21HK-103X	C CAP.	0.01μF	50V	K
C1412	NRS402J-0R0X	MG R	0.002 1/10W	J	
C1414	NCB21HK-103X	C CAP.	0.01μF	50V	K
C1415-16	NCB41HK-104X	C CAP.	0.1μF	50V	K
C1417	NCB21HK-472X	C CAP.	4700pF	50V	K
C1419	NDC21HJ-100X	C CAP.	100pF	50V	J
C1501	QETN1CM-476Z	E CAP.	47μF	16V	M
C1502	NCB21HK-473X	C CAP.	0.047μF	50V	K

C1503	NCB21HK-103X	C CAP.	0.01μF	50V	K
C1504	QEN61CM-336Z	BP E CAP.	33μF	16V	M
C1505	QETN1CM-105Z	E CAP.	1μF	50V	M
C1507	QETN1CM-105Z	E CAP.	1μF	50V	M
C1508	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J
C1509-10	QETN1CM-476Z	E CAP.	47μF	16V	M
C1511	QEN61CM-336Z	BP E CAP.	33μF	16V	M
C1512	QETN1CM-105Z	E CAP.	1μF	50V	M

C1514	QETN1CM-105Z	E CAP.	1μF	50V	M
C1515	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J
C1516-19	QETN1CM-476Z	E CAP.	47μF	16V	M
C1520	NCB21HK-472X	C CAP.	4700pF	50V	K
C1601-03	QETN1CM-105Z	E CAP.	1μF	50V	M
C1604-06	QETN1CM-335Z	E CAP.	3.3μF	50V	M
C1607	NCB21HK-472X	C CAP.	4700pF	50V	K
C1608	QETN1CM-105Z	E CAP.	1μF	50V	M

C1609	QETN1CM-475Z	E CAP.	4.7μF	50V	M
C1610	QETN1CM-225Z	E CAP.	2.2μF	50V	M
C1611-13	QETN1CM-105Z	E CAP.	1μF	50V	M
C1614-16	QENC1CM-105Z	BP E CAP.	1μF	50V	M
C1617	QETN1CM-476Z	E CAP.	47μF	16V	M
C1618	NCB21HK-472X	C CAP.	4700pF	50V	K
C1620	QETN1CM-476Z	E CAP.	47μF	16V	M
C1621-24	NCB21HK-472X	C CAP.	4700pF	50V	K

C1625	QETN1CM-476Z	E CAP.	47μF	16V	M
C1626	NCB21HK-472X	C CAP.	4700pF	50V	K
C1627	QETN1CM-477Z	E CAP.	470μF	16V	M
C1628	NCB21HK-103X	C CAP.	0.01μF	50V	K
C1629	QETN1CM-476Z	E CAP.	47μF	16V	M
C1630	NCB21HK-103X	C CAP.	0.01μF	50V	K
C1631	QETN1CM-106Z	E CAP.	10μF	50V	M
C1632	QETN1CM-107Z	E CAP.	100μF	16V	M

C1633	NCB21HK-473X	C CAP.	0.047μF	50V	K
C1634	QETN1AM-107Z	E CAP.	100μF	10V	M
C1635	NCB21HK-473X	C CAP.	0.047μF	50V	K
C1636	NCB21HK-103X	C CAP.	0.01μF	50V	K
C1637-39	QETN1CM-336Z	E CAP.	33μF	16V	M
C1801	QETN1AM-228Z	E CAP.	2200μF	10V	M
C1802	NCB21EK-104X	C CAP.	0.1μF	25V	K
C1803	QETN1AM-108Z	E CAP.	1000μF	10V	M

C1804	NCB21EK-104X	C CAP.	0.1μF	25V	K
C1805	QETN1AM-108Z	E CAP.	1000μF	10V	M
C1806	NCB21EK-104X	C CAP.	0.1μF	25V	K
C1807	NDC21HJ-271X	C CAP.	270pF	50V	J
C1808	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J
C1809	QFLC1HJ-472Z	M CAP.	4700pF	50V	J

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C1810	QETN1HM-105Z	E CAP.	1μF	50V	M
C1811	QETN1CM-476Z	E CAP.	47μF	16V	M
C1812-16	NCB21EK-104X	C CAP.	0.1μF	25V	K
C1817	QETN1AM-477Z	E CAP.	470μF	10V	M
C1818	NCB21EK-104X	C CAP.	0.1μF	25V	K
C1819-22	NCB21HK-223X	C CAP.	0.022μF	50V	K
C1823	QETN1HM-106Z	E CAP.	10μF	50V	M

COIL

L1201-02	QQL01BK-820Z	PEAKING COIL	82μH		
L1203	QQL01BK-180Z	PEAKING COIL	18μH		
L1204	QQL01BK-390Z	PEAKING COIL	39μH		
L1205	QQL01BK-180Z	PEAKING COIL	18μH		
L1206	QQL01BK-390Z	PEAKING COIL	39μH		

DIODE

D1201	MA3082/M/-X	ZENER DIODE			
D1303-10	1S5353-X	SI. DIODE			
D1501-02	1S5353-X	SI. DIODE			
D1601-02	MA3056/M/-X	ZENER DIODE			
D1606	1S5353-X	SI. DIODE			
D1801-15	MA3056/M/-X	ZENER DIODE			

TRANSISTOR

Q1101	2SC2712/YG/-X	SI. TRANSISTOR			
Q1102	2SA1162/YG/-X	SI. TRANSISTOR			
Q1103-06	2SC2712/YG/-X	SI. TRANSISTOR			
Q1107	2SA1162/YG/-X	SI. TRANSISTOR			
Q1201	2SC2712/YG/-X	SI. TRANSISTOR			
Q1202-03	2SA1162/YG/-X	SI. TRANSISTOR			
Q1204-10	2SC2712/YG/-X	SI. TRANSISTOR			
Q1211-13	2SC2778/C/-X	SI. TRANSISTOR			

Q1214-15	2SA1162/YG/-X	SI. TRANSISTOR			
Q1216-19	2SC2712/YG/-X	SI. TRANSISTOR			
Q1220-22	2SC2778/C/-X	SI. TRANSISTOR			
Q1223-25	2SC2712/YG/-X	SI. TRANSISTOR			
Q1226	DTC124EKA-X	DIGI. TRANSISTOR			
Q1301	2SC2712/YG/-X	SI. TRANSISTOR			
Q1302	2SA1162/YG/-X	SI. TRANSISTOR			
Q1303-04	2SC2712/YG/-X	SI. TRANSISTOR			

Q1305-06	DTC124EKA-X	DIGI. TRANSISTOR			
Q1307	2SA1162/YG/-X	SI. TRANSISTOR			
Q1308	2SC2712/YG/-X	SI. TRANSISTOR			
Q1309	DTC124EKA-X	DIGI. TRANSISTOR			
Q1310-12	2SA1162/YG/-X	SI. TRANSISTOR			
Q1313	2SC2712/YG/-X	SI. TRANSISTOR			
Q1401-04	2SC2778/C/-X	SI. TRANSISTOR			
Q1405-06	FC102-X	SI. TRANSISTOR			

Q1407	2SC2778/C/-X	SI. TRANSISTOR			
Q1408	2SA1022/BC/-X	SI. TRANSISTOR			
Q1409-11	2SC2712/YG/-X	SI. TRANSISTOR			
Q1412-13	FC102-X	SI. TRANSISTOR			
Q1414	2SC2712/YG/-X	SI. TRANSISTOR			
Q1415	2SA1162/YG/-X	SI. TRANSISTOR			
Q1416-17	2SC2778/C/-X	SI. TRANSISTOR			
Q1418	2SA1022/BC/-X	SI. TRANSISTOR			

Q1419	2SC2778/C/-X	SI. TRANSISTOR			
Q1420	2SA1022/BC/-X	SI. TRANSISTOR			
Q1421	2SC2712/YG/-X	SI. TRANSISTOR			
Q1501-02	2SC2778/C/-X	SI. TRANSISTOR			
Q1503	2SK374/Q/-X	F.E.T.			
Q1504-05	2SC2778/C/-X	SI. TRANSISTOR			
Q1506	2SK374/Q/-X	F.E.T.			
Q1507-10	2SC2778/C/-X	SI. TRANSISTOR			

Q1601	2SC2712/YG/-X	SI. TRANSISTOR			
Q1602	2SC2778/C/-X	SI. TRANSISTOR			
Q1603	2SC2712/YG/-X	SI. TRANSISTOR			
Q1604	2SC2778/C/-X	SI. TRANSISTOR			

Symbol No.	Part No.	Part Name	Description	Local
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TRANSISTOR

Q1605	25C2712/YG/-X	SI. TRANSISTOR		
Q1606	25C2778/C/-X	SI. TRANSISTOR		
Q1609	25C2712/YG/-X	SI. TRANSISTOR		
Q1610	25C2778/C/-X	SI. TRANSISTOR		
Q1611	25A1022/BC/-X	SI. TRANSISTOR		
Q1612	25C2778/C/-X	SI. TRANSISTOR		
Q1613	25A1022/BC/-X	SI. TRANSISTOR		
Q1614	25C2778/C/-X	SI. TRANSISTOR		
Q1615	25A1022/BC/-X	SI. TRANSISTOR		
Q1801	25J189	F.E.T.		
Q1802	DTC124EKA-X	DIGI. TRANSISTOR		
Q1803	25C2712/YG/-X	SI. TRANSISTOR		

IC

IC1101	TA78L09F-W	I C		
IC1201	TC4053BF/W/-XE	I.C. (DIGI-MOS)		
IC1202	AN5625N	I.C. (MONO-ANA)		
IC1203-04	TC4053BF/W/-XE	I.C. (DIGI-MOS)		
IC1301-02	JLC1562BF-X	I.C. (DIGI-MOS)		
IC1303-05	TC4053BF/W/-XE	I.C. (DIGI-MOS)		
IC1306	MS2346SP	I.C. (MONO-ANA)		
IC1307-08	TC4538BF-W	I.C. (DIGI-MOS)		
IC1309	TC4053BF/W/-XE	I.C. (DIGI-MOS)		
IC1310-11	TC4538BF-W	I.C. (DIGI-MOS)		
IC1312	TC4053BF/W/-XE	I.C. (DIGI-MOS)		
IC1313	HD74LS07FP-X	I.C. (DIGI-MOS)		
IC1314-15	TC4538BF-W	I.C. (DIGI-MOS)		
IC1316	TC4053BF/W/-XE	I.C. (DIGI-MOS)		
IC1317	TC4538BF-W	I.C. (DIGI-MOS)		
IC1401	AN5862S-W	I.C. (MONO-ANA)		
IC1402	MS1494L	I.C. (MONO-ANA)		
IC1501-02	UPC358G-W	I.C. (MONO-ANA)		
IC1503	TC4053BF/W/-XE	I.C. (DIGI-MOS)		
IC1504	AN5862S-W	I.C. (MONO-ANA)		
IC1601	AN5390FBS	I.C. (MONO-ANA)		
IC1603	UPC358G-W	I.C. (MONO-ANA)		
IC1604	TA78L09F-W	I C		
IC1605	TA78L05F-W	I.C. (MONO-ANA)		
IC1801	MB90P678PF- DTV	MICRO PROCESSOR	(SERVICE)	
IC1802	M3504S-075SP	I.C. (DIGI-MOS)		
IC1803	AT24C08DTV2100	I.C. (EP-ROM)	(SERVICE)	
IC1805	HD74LS07FP-X	I.C. (DIGI-MOS)		
IC1806	MN1280/Q/	I.C. (DIGI-MOS)		
IC1807-09	HD74HC157FP	I.C.		
IC1810	HD74HC125P	I.C. (DIGI-MOS)		

OTHERS

CF1801	CST4.00MGW-Z	CER. RESONATOR		
DL1201	CE42195-001	DELAY LINE		
DL1401-03	CE42424-001	DELAY LINE		
DL1404	CE42425-001	DELAY LINE		
DL1405	CE42424-001	DELAY LINE		
DL1501-02	CE42512-001	DELAY LINE		
EX1001	CM47075-001	EARTH PLATE		
MD1101	QAX0407-001	COMB FILTER		
MD1102	CE42464-001	BPF&DL MODULE		
S1101	QSL4A13-C03Z	LEVER SWITCH	(COMB SW)	
S1201	QSS1A22-C04	SLIDE SWITCH	(APC SW)	
SK1803	CEMS007-008	I.C. SOCKET		
TC1201	QAT7003-450		TRIM. CAP.	
X1201	CE40668-001Z	CRYSTAL		

MAIN PW BOARD ASS'Y (FX-2056A)

Symbol No.	Part No.	Part Name	Description	Local
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VARIABLE RESISTOR

VR2701	QVP0056-303	V R(X-RAY DET)	30kΩ	
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RESISTOR

R2402	QRE141J-272Y	C R	2.7kΩ	1/4W J
R2404	QRL029J-820	OM R	82Ω	2W J
R2405	QRE121J-331Y	C R	330Ω	1/2W J
R2406	QRX01GJ-1R0	MF R	1.0Ω	1W J
R2408	QRE121J-103Y	C R	10kΩ	1/2W J
R2409-10	QRE141J-472Y	C R	4.7kΩ	1/4W J
R2411	QRE121J-272Y	C R	2.7kΩ	1/2W J
R2412	QRE141J-472Y	C R	4.7kΩ	1/4W J
R2413	QRE121J-101Y	C R	100Ω	1/2W J
R2414	QRE141J-271Y	C R	270Ω	1/4W J
R2501	QRE141J-223Y	C R	22kΩ	1/4W J
R2502-03	QRE141J-103Y	C R	10kΩ	1/4W J
R2504	QRE141J-101Y	C R	100Ω	1/4W J
R2505	QRE141J-100Y	C R	10Ω	1/4W J
R2506	QRE141J-473Y	C R	47kΩ	1/4W J
R2507	QRE141J-331Y	C R	330Ω	1/4W J
R2508	QRE141J-102Y	C R	1kΩ	1/4W J
R2509	QRL029J-470	OM R	47Ω	2W J
R2510	QRX01GJ-R68	MF R	0.68Ω	1W J
R2511	QRE121J-101Y	C R	100Ω	1/2W J
R2512	QRT039J-1R0	MF R	1.0Ω	3W J
R2514	QRE141J-102Y	C R	1kΩ	1/4W J
R2515-16	QRL039J-221	OM R	220Ω	3W J
R2518-19	QRE141J-103Y	C R	10kΩ	1/4W J
R2521	QRE141J-103Y	C R	10kΩ	1/4W J
R2522	QRE141J-473Y	C R	47kΩ	1/4W J
R2523	QRE141J-822Y	C R	8.2kΩ	1/4W J
R2524	QRE141J-154Y	C R	150kΩ	1/4W J
R2525	QRE141J-223Y	C R	22kΩ	1/4W J
R2527	QRE141J-472Y	C R	4.7kΩ	1/4W J
R2530	QRE141J-682Y	C R	6.8kΩ	1/4W J
R2531	QRE141J-122Y	C R	1.2kΩ	1/4W J
R2532	QRA14CF-3302Y	MF R	33kΩ	1/4W F
R2533	QRA14CF-2202Y	MF R	22kΩ	1/4W F
R2534	QRA14CF-2871Y	MF R	2.87kΩ	1/4W F
R2535	QRE141J-224Y	C R	220kΩ	1/4W J
R2536	QRE141J-102Y	C R	1kΩ	1/4W J
R2537	QRE141J-184Y	C R	180kΩ	1/4W J
R2538	QRG039J-100	OM R	10 Ω	3W J
R2539	QRE141J-470Y	C R	47Ω	1/4W J
R2540	QRE141J-101Y	C R	100Ω	1/4W J
R2541	QRE141J-123Y	C R	12kΩ	1/4W J
R2542	QRE141J-103Y	C R	10kΩ	1/4W J
R2543-44	QRE141J-102Y	C R	1kΩ	1/4W J
R2545	QRE141J-470Y	C R	47Ω	1/4W J
R2546	QRE141J-103Y	C R	10kΩ	1/4W J
R2548	QRG029J-820	OM R	82 Ω	2W J
R2550-51	QRE141J-102Y	C R	1kΩ	1/4W J
R2553	QRE141J-0R0Y	C R	0.0Ω	1/4W J
R2602	QRE141J-332Y	C R	3.3kΩ	1/4W J
R2603	QRE141J-221Y	C R	220Ω	1/4W J
R2604	QRE141J-393Y	C R	39kΩ	1/4W J
R2605	QRE141J-682Y	C R	6.8kΩ	1/4W J
R2607-10	QRE141J-104Y	C R	100kΩ	1/4W J
R2611	QRE141J-823Y	C R	82kΩ	1/4W J
R2612	QRG01GJ-680	OM R	68Ω	1W J
R2613	QRE141J-474Y	C R	470kΩ	1/4W J
R2614	QRE141J-103Y	C R	10kΩ	1/4W J
R2615	QRG01GJ-683	OM R	68kΩ	1W J
R2616	QRE141J-681Y	C R	680Ω	1/4W J
R2617	QRE141J-822Y	C R	8.2kΩ	1/4W J
R2618	QRX039J-2R2	MF R	2.2 Ω	3W J
R2619	QRG01GJ-332	OM R	3.3kΩ	1W J
R2620	QRG01GJ-331	OM R	330Ω	1W J

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R2701	QRE141J-472Y	C R	4.7kΩ 1/4W J
△ R2703	QRA14CF-6802Y	MF R	68kΩ 1/4W F
△ R2902	QRF154K-1R0	UNF R	1Ω 15W K
R2903	QRG039J-683	OM R	68kΩ 3W J
R2904	QRL029J-823	OM R	82kΩ 2W J
R2906	QRX01GJ-R68	MF R	0.68Ω 1W J
R2907	QRE141J-103Y	C R	10kΩ 1/4W J
R2908	QRL029J-120	OM R	12Ω 2W J
R2910	QRE141J-473Y	C R	47kΩ 1/4W J
R2912	QRE141J-100Y	C R	10Ω 1/4W J
R2914	QRE141J-220Y	C R	22Ω 1/4W J
R2915	QRM059J-R33	MP R	0.33 Ω 5W J
R2918	QRE141J-183Y	C R	18kΩ 1/4W J
R2919	QRE141J-272Y	C R	2.7kΩ 1/4W J
R2920	QRE141J-122Y	C R	1.2kΩ 1/4W J
R2922	QRE141J-102Y	C R	1kΩ 1/4W J
R2923-24	QRE141J-183Y	C R	18kΩ 1/4W J
R2925	QRL029J-683	OM R	68kΩ 2W J
R2926	QRA14CF-1003Y	MF R	100kΩ 1/4W F
R2927	QRA14CF-2402Y	MF R	24kΩ 1/4W F
R2928	QRA14CF-6201Y	MF R	6.2kΩ 1/4W F
R2929	QRA14CF-8200Y	MF R	820Ω 1/4W F
R2930	QRE141J-103Y	C R	10kΩ 1/4W J
R2931	QRE141J-472Y	C R	4.7kΩ 1/4W J
R2932-33	QRE141J-2R7Y	C R	2.7Ω 1/4W J
R2934	QRE141J-683Y	C R	68kΩ 1/4W J
R2935	QRG01GJ-223	OM R	22kΩ 1W J
R2936	QRE141J-273Y	C R	27kΩ 1/4W J
R2937	QRE141J-103Y	C R	10kΩ 1/4W J
R2938	QRE141J-562Y	C R	5.6kΩ 1/4W J
R2939	QRE141J-472Y	C R	4.7kΩ 1/4W J
R2941	QRA14CF-1003Y	MF R	100kΩ 1/4W F
R2942	QRE141J-683Y	C R	68kΩ 1/4W J
R2943	QRA14CF-6800Y	MF R	680Ω 1/4W F
R2944	QRE141J-2R7Y	C R	2.7Ω 1/4W J
R2945	QRE141J-221Y	C R	220Ω 1/4W J
R2946	QRE141J-393Y	C R	39kΩ 1/4W J
R2947	QRE141J-221Y	C R	220Ω 1/4W J
R2948-49	QRE141J-102Y	C R	1kΩ 1/4W J
R2950	QRE141J-184Y	C R	180kΩ 1/4W J
R2951	QRE141J-103Y	C R	10kΩ 1/4W J
R2952	QRA14CF-2741Y	MF R	2.74kΩ 1/4W F
R2953	QRE141J-561Y	C R	560Ω 1/4W J
R2954-55	QRE141J-393Y	C R	39kΩ 1/4W J
R2956	QRE141J-472Y	C R	4.7kΩ 1/4W J
R2957	QRE141J-223Y	C R	22kΩ 1/4W J
R2958	QRE121J-821Y	C R	820Ω 1/2W J
R2963	QRE141J-682Y	C R	6.8kΩ 1/4W J
R2964	QRE141J-102Y	C R	1kΩ 1/4W J
R2965	QRF074K-8R2	UNF R	8.2Ω 7W K
R2966	QRT039J-2R7	MF R	2.7Ω 3W J
R2967	QRL039J-330	OM R	33Ω 3W J
R2970	QRE141J-680Y	C R	68Ω 1/4W J
R2971	QRE141J-561Y	C R	560Ω 1/4W J
R2972	QRX029J-1R0	MF R	1 Ω 2W J

CAPACITOR

C2401	QETN1CM-108Z	E CAP.	1000μF 16V M
C2402	QFLC1HJ-102Z	M CAP.	1000pF 50V J
C2403	QCS32HJ-221Z	C CAP.	220pF 500V J
C2404	QCS32HJ-330Z	C CAP.	33pF 500V J
C2406	QETN1CM-107Z	E CAP.	100μF 16V M
C2408	QFV71HJ-564Z	MF CAP.	0.56μF 50V J
C2410	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
C2411	QEN62AM-474Z	BP E CAP.	0.47μF 100V M
C2412	QFLC1HJ-473Z	M CAP.	0.047μF 50V J
C2502	QETN1CM-107Z	E CAP.	100μF 16V M

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C2503	QFV71HJ-474Z	MF CAP.	0.47μF 50V J
△ C2504	QCB31HK-122Z	C CAP.	1200pF 50V K
△ C2505	QFZ0117-8001	MPP CAP.	8000pF1.4kVH±2.5%
△ C2507	QFZ0117-2001	MPP CAP.	2000pF1.4kVH±2.5%
C2508	QFLC1HJ-823Z	M CAP.	0.082μF 50V J
△ C2509	QFZ0117-8001	MPP CAP.	8000pF1.4kVH±2.5%
△ C2510-11	QCB32HK-561Z	C CAP.	560pF 500V K
C2512	QFLC1HJ-473Z	M CAP.	0.047μF 50V J
C2513	QETN1CM-107Z	E CAP.	100μF 16V M
C2514	QFLC1HJ-103Z	M CAP.	0.01μF 50V J
C2515	QENC1HM-105Z	BP E CAP.	1μF 50V M
C2517	QFM720K-154	M CAP.	0.15μF 200V K
C2518	QEZ0097-106R	E CAP.	10μF 160V M
C2519	QEH2CM-106Z	E CAP.	10μF 160V M
C2520	QEZ0368-227	E CAP.	220μF 200V M
C2521	QEH1CM-107Z	E CAP.	100μF 16V M
C2522	QETN1CM-107Z	E CAP.	100μF 16V M
C2525	QETN1CM-476Z	E CAP.	47μF 16V M
C2527	QFLC1HJ-473Z	M CAP.	0.047μF 50V J
C2528-29	QFLC1HJ-222Z	M CAP.	2200pF 50V J
C2530	QCB32HK-151Z	C CAP.	150pF 500V K
C2531	QCB32HK-472Z	C CAP.	4700pF 500V K
C2534	QFLC1HJ-472Z	M CAP.	4700pF 50V J
C2535	QEH1CM-107Z	E CAP.	100μF 10V M
C2537	QFLC1HJ-472Z	M CAP.	4700pF 50V J
C2540	QFLC2AJ-472Z	M CAP.	4700pF 100V J
C2603	QENC1HM-106Z	BP E CAP.	10μF 50V M
C2604	QEH2AM-226Z	E CAP.	22μF 100V M
C2605	QCB32HK-152Z	C CAP.	1500pF 500V K
C2607	QETN1JM-107Z	E CAP.	100μF 63V M
C2608	QETN1HM-106Z	E CAP.	10μF 50V M
C2609	QENC1HM-225Z	BP E CAP.	2.2μF 50V M
C2610	QETN1JM-106Z	E CAP.	10μF 63V M
C2611	QCS31HJ-2R0Z	C CAP.	2.0pF 50V J
△ C2901	QFZ9036-104	MF CAP.	0.1μFAC250V M
△ C2903	QCZ9086-47Z	C CAP.	4700pFAC250V P
△ C2904	QCZ9086-47Z	C CAP.	4700pFAC250V P
△ C2905	QCZ9086-47Z	C CAP.	4700pFAC250V P
△ C2906	QCZ9086-47Z	C CAP.	4700pFAC250V P
△ C2907	QEU72DM-567M	E CAP.	560μF 200V M
C2908	QCB32HK-472Z	C CAP.	4700pF 500V K
△ C2909	QCZ0325-561	C CAP.	560pF 2kV K
△ C2910	QFZ0117-4801	MPP CAP.	4800pF1.4kVH±2.5%
△ C2911	QCZ0325-151	C CAP.	150pF 2kV K
△ C2912-13	QEH1CM-227Z	E CAP.	220μF 16V M
C2914	QCB31HK-471Z	C CAP.	470pF 50V J
C2917	QFLC1HJ-122Z	M CAP.	1200pF 50V J
△ C2918	QCZ9075-47Z	C CAP.	4700pFAC250V M
△ C2919	QCZ9075-47Z	C CAP.	4700pFAC250V M
C2921	QEH1HM-226Z	E CAP.	22μF 50V M
C2922	QEH1VM-336Z	E CAP.	33μF 35V M
C2925	QEH2CM-105Z	E CAP.	1μF 160V M
C2930	QFLC1HJ-223Z	M CAP.	0.022μF 50V J
C2931	QCB32HK-561Z	C CAP.	560pF 500V K
C2932	QEZ0368-227	E CAP.	220μF 200V M
C2933	QCB32HK-561Z	C CAP.	560pF 500V K
C2934-35	QEH2AM-107Z	E CAP.	100μF 100V M
C2936	QEH2AM-226Z	E CAP.	22μF 100V M
C2937	QEH1CM-228	E CAP.	2200μF 16V M
C2938	QEH1CM-108Z	E CAP.	1000μF 16V M
C2940	QEH1CM-108Z	E CAP.	1000μF 16V M
C2941	QCB32HK-561Z	C CAP.	560pF 500V K
C2942	QEH1CM-228	E CAP.	2200μF 16V M
C2943	QENC1CM-106Z	BP E CAP.	10μF 16V M
C2944	QEH1AM-227Z	E CAP.	220μF 10V M
C2945	QETN2AM-106Z	E CAP.	10μF 100V M
C2946	QEH1CM-108Z	E CAP.	1000μF 16V M
C2947	QEH1AM-108Z	E CAP.	1000μF 10V M
C2948	QCB32HK-561Z	C CAP.	560pF 500V K
C2949	QEH1CM-228	E CAP.	2200μF 16V M

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C2950	QEH1CM-477Z	E CAP.	470μF	16V	M
C2951	QEH1EM-107Z	E CAP.	100μF	25V	M
C2953	QEH1CM-107Z	E CAP.	100μF	16V	M
C2954	QCB32HK-561Z	C CAP.	560pF	500V	K
C2956	QEH1CM-228	E CAP.	2200μF	16V	M
C2958	QEH1CM-337Z	E CAP.	330μF	16V	M
C2960	QENC1CM-106Z	BP E CAP.	10μF	16V	M
C2961	QCB32HK-561Z	C CAP.	560pF	500V	K

C2962	QEH2AM-226Z	E CAP.	22μF	100V	M
C2965	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J
C2966	QETN1HM-106Z	E CAP.	10μF	50V	M
C2971	QETN1AM-107Z	E CAP.	100μF	10V	M
C2972	QETN1HM-106Z	E CAP.	10μF	50V	M
C2973	QEH1EM-107Z	E CAP.	100μF	25V	M
C2974	QEH1CM-107Z	E CAP.	100μF	16V	M
C2975	QEH1HM-106Z	E CAP.	10μF	50V	M

C2976	QETN1AM-107Z	E CAP.	100μF	10V	M
C2983	QFV71HJ-564Z	MF CAP.	0.56μF	50V	J
△ C2985	QFZ9036-104	MF CAP.	0.1μF	AC250V	M
C2986	QFV71HJ-124Z	MF CAP.	0.12μF	50V	J
C2987	QFLC1HJ-104Z	M CAP.	0.1μF	50V	J

TRANSFORMER

△ T2501	QQR0663-001	DRIVE TRANSF.			
T2502	QHQ0049-001	FB TRANSF.			
T2503	CJ39720-00A	CHOKE TRANSF.			
T2601	CE42710-001	DAF TRANSF.			
△ T2901	CETS076-001	SWITCH TRANSF.			

COIL

L2501	QQR0664-002	CHOKE COIL			
L2502	QQR0666-002	LINEARITY COIL			
L2503	QQL2018-140	HEATER CHOKE			

DIODE

D2401	RGP10J-5025-T3	SI. DIODE			
△ D2402-03	1SS133-T2	SI. DIODE			
D2501	1SS133-T2	SI. DIODE			
△ D2503	RU40S-F1	SI. DIODE			
D2504	CTU-G3DR	DUMP DIODE			
D2505	MTZJ5.6B-T2	ZENER DIODE			
△ D2506-07	1SS133-T2	SI. DIODE			
D2508	1SS82-T2	SI. DIODE			

D2509-10	1SS133-T2	SI. DIODE			
D2511-12	MTZJ12C-T2	ZENER DIODE			
D2513	RL4Z-F1	SI. DIODE			
D2516	MTZJ5.1A-T2	ZENER DIODE			
D2518	MTZJ5.6B-T2	ZENER DIODE			
D2519	1SS133-T2	SI. DIODE			
D2520	1SS82-T2	SI. DIODE			
D2521	RGP10J-5025-T3	SI. DIODE			

D2522	1SS133-T2	SI. DIODE			
D2523	MTZJ6.8C-T2	ZENER DIODE			
D2524	1SS133-T2	SI. DIODE			
D2601	RGP10J-5025-T3	SI. DIODE			
D2602	1SS133-T2	SI. DIODE			
D2603	MTZJ5.1B-T2	ZENER DIODE			
D2604	MTZJ27B-T2	ZENER DIODE			
△ D2701	MA4068N/Z1/-T2	ZENER DIODE			

△ D2901	RBV-406M	BRIDGE DIODE			
D2902	RU1C-LF4	SI. DIODE			
D2904	1SS133-T2	SI. DIODE			
D2905	RGP10J-5025-T3	SI. DIODE			
D2906	MTZJ12C-T2	ZENER DIODE			
D2907	EG1Z-T3	SI. DIODE			
D2909-10	RGP10J-5025-T3	SI. DIODE			
D2911	MTZJ7.5C-T2	ZENER DIODE			

△ Symbol No. Part No. Part Name Description Local

DIODE

D2912-13	1SS133-T2	SI. DIODE			
D2930	MA4068N/Z1/-T2	ZENER DIODE			
D2931-32	RG4C-F1	SI. DIODE			
D2933	1SS82-T2	SI. DIODE			
D2935	SF6L20U	SI. DIODE			
D2936	1SS133-T2	SI. DIODE			
D2938	SF6L20U	SI. DIODE			
D2939-40	1SS133-T2	SI. DIODE			

D2941	SF6L20U	SI. DIODE			
D2942	RGP10J-5025-T3	SI. DIODE			
D2943	1SS133-T2	SI. DIODE			
D2944-45	MTZJ6.8A-T2	ZENER DIODE			
D2950	MTZJ3.3A-T2	ZENER DIODE			
D2951	MTZJ12C-T2	ZENER DIODE			
D2953	1SS133-T2	SI. DIODE			

TRANSISTOR

Q2401	2SC1627A/OY/-T	SI. TRANSISTOR			
Q2402	2SA965/OY/-	SI. TRANSISTOR			
Q2501-02	2SC1740S/QR/-T	SI. TRANSISTOR			
Q2503	2SA933S(QR)-T	SI. TRANSISTOR			
Q2504	IRFZ14	F.E.T.			
Q2505	2SB946/P/-	SI. TRANSISTOR			
△ Q2506	2SC5294-RL	SI. TRANSISTOR			H.OUT
Q2507-08	2SC1472K/AB/-T	SI. TRANSISTOR			

Q2509	DTC124ESA-T	DIGI. TRANSISTOR			
Q2510	IRF9630	F.E.T.			
Q2511	DTC124ESA-T	DIGI. TRANSISTOR			
Q2512	2SC1472K/AB/-T	SI. TRANSISTOR			
Q2513	DTC124ESA-T	DIGI. TRANSISTOR			
Q2601	2SC1740S/QR/-T	SI. TRANSISTOR			
Q2602	2SD866A/P/-	SI. TRANSISTOR			
Q2603	2SB861/C/-	SI. TRANSISTOR			

Q2604	2SD1409	SI. TRANSISTOR			
Q2902	2SC1627A/OY/-T	SI. TRANSISTOR			
Q2904	2SA1370/E/-	SI. TRANSISTOR			
Q2905	2SC1627A/OY/-T	SI. TRANSISTOR			
Q2906	DTA124ESA-T	DIGI. TRANSISTOR			
Q2907-09	DTC124ESA-T	DIGI. TRANSISTOR			
Q2910	2SA1370/E/-	SI. TRANSISTOR			
Q2911	2SC1472K/AB/-T	SI. TRANSISTOR			

Q2912-13	DTC124ESA-T	DIGI. TRANSISTOR			
Q2914	2SD866A/RQP/-	SI. TRANSISTOR			

IC

IC2401	UPC1498H	I.C. (MONO-ANA)			
IC2501	UPC358C	I.C. (MONO-ANA)			
IC2503	UPC4558C	I.C. (MONO-ANA)			
IC2601	UPC4556C	I.C. (MONO-ANA)			
IC2901	STR-56709	I.C. (HYBRID)			
IC2902	LM2940CT-12	I.C. (MONO-ANA)			
IC2903	PQ30RV21	I.C. (MONO-ANA)			
IC2904	AN7805F	I.C. (MONO-ANA)			

IC2905	PQ12RF21	I.C. (MONO-ANA)			
IC2906	PQ12RF1	I.C.			
IC2908	TA78L009AP-T	I.C. (MONO-ANA)			
IC2909	TA78L005AP-T	I.C. (H)			

OTHERS

△ CP2902	CEMG002-001Z	FUSE CLIP			
△ CP2903	ICP-N75-Y	I.C. PROTECT			
△ CP2904	ICP-N75-Y	I.C. PROTECT			
△ CP2905	ICP-N75-Y	I.C. PROTECT			
△ F2901	QMF5102-3R15J1	FUSE			3.15A
△ FR2902	QRZ9017-2R2	FUSI. RESISTOR			2.2 Ω 1/4W J
H2001	CEHT12N-017S	HEAT SINK			
H2003	CEHT11B-002QS	HEAT SINK			
K2901-02	CE41433-001Z	BEADS CORE			

△ Symbol No.	Part No.	Part Name	Description	Local
OTHERS				
K2904	CE41433-0012	BEADS CORE		
K2906	CE41433-0012	BEADS CORE		
K2909-12	CE41433-0012	BEADS CORE		
△ LF2901	CE41775-003	LINE FILTER		
△ PC2901	TLP721F (GR)	I.C. (PH.COUPLER)		
△ RY2501	CESK028-001	RELAY		
△ RY2502	CESK028-001	RELAY		
△ RY2503	CESK028-001	RELAY		
△ RY2901	CESK028-001	RELAY		
SG2601	CE42447-242	ARRESTOR		
△ TH2901	CEKP007-002	P.THERMISTOR		
△ VA2901	ERZV10V621CS	VARISTOR		

SUB DEF PW BOARD ASS'Y (FX-2107A)

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R2551	QVP0067-502Z	V R(HV)		500Ω

RESISTOR

R2540	QRE141J-821Y	C R	820Ω	1/4W	J
R2541	QRE141J-822Y	C R	8.2kΩ	1/4W	J
R2542	QRA14CF-1800Y	MF R	180Ω	1/4W	F
R2543	QRA14CF-2491Y	MF R	2.49kΩ	1/4W	F
R2545	QRE141J-105Y	C R	1MΩ	1/4W	J
R2546	QRA14CF-3003Y	MF R	300kΩ	1/4W	F
R2547-49	QRE141J-103Y	C R	10kΩ	1/4W	J
R2550	QRE141J-102Y	C R	1kΩ	1/4W	J
R2552	QRE141J-183Y	C R	18kΩ	1/4W	J
R2553	QRE141J-152Y	C R	1.5kΩ	1/4W	J
R2554	QRE141J-333Y	C R	33kΩ	1/4W	J
R2555	QRE141J-153Y	C R	15kΩ	1/4W	J
R2556	QRE141J-182Y	C R	1.8kΩ	1/4W	J
R2557-59	QRE141J-103Y	C R	10kΩ	1/4W	J
R2562	QRE141J-272Y	C R	2.7kΩ	1/4W	J
R2563	QRE141J-103Y	C R	10kΩ	1/4W	J
R2564	QRE141J-471Y	C R	470Ω	1/4W	J
R2565	QRE141J-102Y	C R	1kΩ	1/4W	J
R2566	QRE141J-562Y	C R	5.6kΩ	1/4W	J
R2567	QRE141J-472Y	C R	4.7kΩ	1/4W	J
R2568	QRE141J-1R0Y	C R	1.0Ω	1/4W	J
R2569	QRE141J-102Y	C R	1kΩ	1/4W	J
R2570	QRE141J-822Y	C R	8.2kΩ	1/4W	J
R2571	QRG039J-472	OM R	4.7kΩ	3W	J
R2580	QRX01GJ-5R6	MF R	5.6Ω	1W	J
R2581	QRL029J-102	OM R	1kΩ	2W	J
R2582	QRG039J-221	OM R	220 Ω	3W	J
R2583	QRE141J-222Y	C R	2.2kΩ	1/4W	J
R2588-89	QRW059K-R10	MP R	0.1Ω	5W	K
R2590	QRG039J-391	OM R	390 Ω	3W	J
R2597	QRE141J-393Y	C R	39kΩ	1/4W	J

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C2541	QENC1HM-105Z	BP E CAP.	1μF 50V	M
C2542-43	QETN1HM-105Z	E CAP.	1μF 50V	M
C2544-45	QETN1CM-107Z	E CAP.	100μF 16V	M
C2546	QETN1CM-227Z	E CAP.	220μF 16V	M
C2547	QETN1CM-107Z	E CAP.	100μF 16V	M
C2550	QENC1HM-105Z	BP E CAP.	1μF 50V	M
C2551	QFLC1HJ-392Z	M CAP.	3900pF 50V	J
C2552	QFLC1HJ-822Z	M CAP.	8200pF 50V	J
C2554	QETN1CM-107Z	E CAP.	100μF 16V	M
C2555	QFLC1HJ-183Z	M CAP.	0.018μF 50V	J
C2556	QFZ0117-1001	MPP CAP.	1000pF1.4kVH±2.5%	
C2557	QFZ0128-153	MPP CAP.	0.015μF 400V±3%	
C2558	QFLC1HJ-102Z	M CAP.	1000pF 50V	J
C2559	QFLC1HJ-183Z	M CAP.	0.018μF 50V	J
C2560	QENC1HM-105Z	BP E CAP.	1μF 50V	M
C2561	QFLC1HJ-223Z	M CAP.	0.022μF 50V	J
C2562	QFZ0128-153	MPP CAP.	0.015μF 400V±3%	
C2580-83	QFLC1HJ-103Z	M CAP.	0.01μF 50V	J
C2584-85	QFZ0119-155	MPP CAP.	1.5μF 200V ±3%	
C2586	QFZ0119-104	MPP CAP.	0.1μF 200V ±3%	
C2587	QFZ0119-224	MPP CAP.	0.22μF 200V ±3%	
C2588	QCB31HK-103Z	C CAP.	0.01μF 50V	K
C2589-90	QFZ0119-754	MPP CAP.	0.75μF 200V ±3%	
C2592	QFM72DK-153	M CAP.	0.015μF 200V	K
C2593-96	QFLC1HJ-473Z	M CAP.	0.047μF 50V	J

COIL

L2550	QQL42AK-821Z	CHOKE COIL
L2551	QQR0666-003	LINEARITY COIL

DIODE

D2502	RU30-F1	SI. DIODE
D2510	MA4068N/Z1/-T2	ZENER DIODE
D2511	RD2.7ES/B1/-T2	ZENER DIODE
D2512-13	1S5133-T2	SI. DIODE
D2516	MA4068N/Z1/-T2	ZENER DIODE
D2541-43	1S5133-T2	SI. DIODE
D2551-52	RGP10J-5025-T3	SI. DIODE

TRANSISTOR

Q2541	2SC1740S/QR/-T	SI. TRANSISTOR
Q2550-51	2SC1740S/QR/-T	SI. TRANSISTOR
Q2552	2SA933S(QR)-T	SI. TRANSISTOR
Q2553	2SK2477	F.E.T.
Q2564-69	IRF640	F.E.T.

IC

IC2551	MC14577CP	I.C. (MONO-ANA)
IC2552	TC4538BP	I.C. (DIGI-MOS)
IC2553-55	UPC358C	I.C. (MONO-ANA)

OTHERS

△ RY2551	CESK028-001	RELAY	
S2551	QSL4A13-C03Z	LEVER SWITCH	(H.SENT 1)
S2552	QSL4A13-C03Z	LEVER SWITCH	(H.SENT 2)

CRT SOCKET PW BOARD ASS'Y (FX-3055A)

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R3101-03	QRE141J-101Y	C R	100Ω 1/4W J	
R3104-06	QRE141J-221Y	C R	220Ω 1/4W J	
R3107	QRE141J-223Y	C R	22kΩ 1/4W J	
R3108	QRE141J-103Y	C R	10kΩ 1/4W J	
R3109-11	QRE141J-185Y	C R	1.8MΩ 1/4W J	
R3112-14	QRE141J-750Y	C R	75Ω 1/4W J	
R3115-16	QRE141J-473Y	C R	47kΩ 1/4W J	
R3118-19	QRE141J-123Y	C R	12kΩ 1/4W J	

R3120	QRE141J-182Y	C R	1.8kΩ 1/4W J	
R3121-23	QRE141J-681Y	C R	680Ω 1/4W J	
R3124-26	QRE141J-560Y	C R	56Ω 1/4W J	
R3128	QRE141J-222Y	C R	2.2kΩ 1/4W J	
R3130	QRE141J-333Y	C R	33kΩ 1/4W J	
R3131	QRE141J-273Y	C R	27kΩ 1/4W J	
R3132	QRE141J-223Y	C R	22kΩ 1/4W J	
R3133-38	QRE141J-151Y	C R	150Ω 1/4W J	

R3140	QRE141J-102Y	C R	1kΩ 1/4W J	
R3141	QRE141J-188Y	C R	1.8Ω 1/4W J	
R3142	QRE141J-101Y	C R	100Ω 1/4W J	
R3143	QRE141J-188Y	C R	1.8Ω 1/4W J	
R3145-47	QRE141J-563Y	C R	56kΩ 1/4W J	
R3148-50	QRE141J-223Y	C R	22kΩ 1/4W J	
R3151-53	QRE141J-221Y	C R	220Ω 1/4W J	
R3155-57	QRE141J-560Y	C R	56Ω 1/4W J	

R3159	QRE141J-153Y	C R	15kΩ 1/4W J	
R3160	QRE141J-332Y	C R	3.3kΩ 1/4W J	
R3161	QRE141J-100Y	C R	10Ω 1/4W J	
R3162	QRE121J-103Y	C R	10kΩ 1/2W J	
R3163	QRE141J-473Y	C R	47kΩ 1/4W J	
R3164	QRE121J-472Y	C R	4.7kΩ 1/2W J	
R3165-67	QRE141J-103Y	C R	10kΩ 1/4W J	
R3168-70	QRE141J-560Y	C R	56Ω 1/4W J	

R3201	QRE141J-561Y	C R	560Ω 1/4W J	
R3202	QRE141J-680Y	C R	68Ω 1/4W J	
R3203	QRE141J-561Y	C R	560Ω 1/4W J	
R3204	QRE141J-560Y	C R	56Ω 1/4W J	
R3205	QRE141J-561Y	C R	560Ω 1/4W J	
R3206	QRE141J-820Y	C R	82Ω 1/4W J	
R3208	QRC121K-101Z	COMP.R	100 Ω 1/2W K	
R3210	QRC121K-101Z	COMP.R	100 Ω 1/2W K	

R3212	QRC121K-101Z	COMP.R	100 Ω 1/2W K	
R3213	QRL029J-182	OM R	1.8kΩ 2W J	
R3214	QRL029J-152	OM R	1.5kΩ 2W J	
R3215	QRE141J-102Y	C R	1kΩ 1/4W J	
Δ R3216	QRZ9011-100	F R	10Ω 1/2W J	
R3218	QRE121J-474Y	C R	470kΩ 1/2W J	
R3219	QRE141J-680Y	C R	68Ω 1/4W J	
R3220	QRE141J-332Y	C R	3.3kΩ 1/4W J	

R3221	QRE141J-103Y	C R	10kΩ 1/4W J	
R3223	QRC121K-473Z	COMP.R	47kΩ 1/2W K	
R3225	QRE121J-102Y	C R	1kΩ 1/2W J	
Δ R3227	QRZ9011-100	F R	10Ω 1/2W J	
R3228	QRE121J-152Y	C R	1.5kΩ 1/2W J	
R3229	QRE141J-103Y	C R	10kΩ 1/4W J	
R3230	QRE121J-683Y	C R	68kΩ 1/2W J	
R3231	QRE121J-223Y	C R	22kΩ 1/2W J	

R3233	QRE141J-273Y	C R	27kΩ 1/4W J	
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CAPACITOR

C3102-04	QENC1EM-106Z	BP E CAP.	10μF 25V M	
C3105	QETN1HM-106Z	E CAP.	10μF 50V M	
C3106	QETN1CM-476Z	E CAP.	47μF 16V M	
C3107	QCB31HK-103Z	C CAP.	0.01μF 50V K	
C3108	QETN1CM-476Z	E CAP.	47μF 16V M	
C3109	QCB31HK-103Z	C CAP.	0.01μF 50V K	
C3110	QETN1CM-476Z	E CAP.	47μF 16V M	
C3111	QCB31HK-103Z	C CAP.	0.01μF 50V K	

Symbol No.	Part No.	Part Name	Description	Local
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CAPACITOR

C3112	QETN1CM-476Z	E CAP.	47μF 16V M	
C3113	QCB31HK-103Z	C CAP.	0.01μF 50V K	
C3114	QETN1HM-225Z	E CAP.	2.2μF 50V M	
C3115	QETN1CM-476Z	E CAP.	47μF 16V M	
C3116	QCB31HK-103Z	C CAP.	0.01μF 50V K	
C3117	QETN1HM-225Z	E CAP.	2.2μF 50V M	
C3118	QETN1CM-476Z	E CAP.	47μF 16V M	
C3119	QCB31HK-103Z	C CAP.	0.01μF 50V K	

C3120	QETN1HM-225Z	E CAP.	2.2μF 50V M	
C3121	QETN1HM-106Z	E CAP.	10μF 50V M	
C3122	QETN1CM-107Z	E CAP.	100μF 16V M	
C3123	QCB31HK-103Z	C CAP.	0.01μF 50V K	
C3124-27	QETN1HM-106Z	E CAP.	10μF 50V M	
C3128	QETN1CM-107Z	E CAP.	100μF 16V M	
C3129	QETN1CM-477Z	E CAP.	470μF 16V M	
C3130-33	QETN1HM-106Z	E CAP.	10μF 50V M	

C3134	QETN2AM-476Z	E CAP.	47μF 100V M	
C3135-37	QENC1CM-336Z	BP E CAP.	33μF 16V M	
C3138-40	QETN1CM-107Z	E CAP.	100μF 16V M	
C3141-43	QENC1CM-106Z	BP E CAP.	10μF 16V M	
C3144	QETN1CM-107Z	E CAP.	100μF 16V M	
C3201	QCS31HJ-820Z	C CAP.	82pF 50V J	
C3202-03	QCS31HJ-560Z	C CAP.	56pF 50V J	
C3204	QFP32GK-563	PP CAP.	0.056μF 400V K	

C3205	QETB2EM-336	E CAP.	33μF 250V M	
C3206	QCZ0324-102	C CAP.	1000pF 3kV P	
C3210	QCS31HJ-471Z	C CAP.	470pF 50V J	
C3211	QFLC1HJ-103Z	M CAP.	0.01μF 50V J	
C3212	QFM72DJ-152Z	M CAP.	1500pF 200V J	
C3214	QETN1EM-107Z	E CAP.	100μF 25V M	

TRANSFORMER

TP-47R	CM42818-001	TAB		
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COIL

L3204	QQL01BK-102Z	PEAKING COIL	1000μH	
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DIODE

D3101	1SS133-T2	SI. DIODE		
D3103-04	RD5.6ES/B3/-T2	ZENER DIODE		
D3105	MTZJ5.6B-T2	ZENER DIODE		
D3110	MTZJ2.7B-T2	ZENER DIODE		
D3201-02	1SS582-T2	SI. DIODE		
D3203	1SS133-T2	SI. DIODE		
D3204-05	1SR124-400A-T2	SI. DIODE		
D3206	1SS133-T2	SI. DIODE		
D3207-09	1SR124-400A-T2	SI. DIODE		
D3210	MTZJ5.1B-T2	ZENER DIODE		
D3211	1SS133-T2	SI. DIODE		
D3213-14	1SS133-T2	SI. DIODE		

TRANSISTOR

Q3101-06	2SC1906-T	SI. TRANSISTOR		
Q3107	2SC1740S/QR/-T	SI. TRANSISTOR		
Q3108-09	2SA933S(QR)-T	SI. TRANSISTOR		
Q3110	2SC1740S/QR/-T	SI. TRANSISTOR		
Q3111-13	2SC1906-T	SI. TRANSISTOR		
Q3114-15	2SC1740S/QR/-T	SI. TRANSISTOR		
Q3202	2SC3946	SI. TRANSISTOR		
Q3203	2SC2235/OY/-	SI. TRANSISTOR		
Q3204	2SA965/OY/-T	SI. TRANSISTOR		
Q3205	2SC1627A/OY/-T	SI. TRANSISTOR		
Q3206	2SC2229/Y/-T	SI. TRANSISTOR		

Symbol No.	Part No.	Part Name	Description	Local
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IC

IC3101	MS2321SP	I.C. (MONO-ANA)		
IC3102	M62393P	I.C. (MONO-ANA)		
IC3201	VP553	I.C. (HYBRID)		

OTHERS

EX3001-02	CM47075-001	EARTH PLATE		
FR3201	QRZ9017-471	F R	470Ω	1/4W J
RY3101	CESK024-001	RELAY		
RY3102	CESK024-001	RELAY		
SG3201	CE42447-242	ARRESTOR		
SG3202-04	QAF0006-201	ARRESTOR		
SK3001	CE42670-001	C.R.T. SOCKET		

FRONT CONTROL PW BOARD ASS'Y (FX-4059A)

Symbol No.	Part No.	Part Name	Description	Local
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VARIABLE RESISTOR

VR4201	QVQ0286-B14	V R(CONTRAST)	10kΩ	B
VR4202	QVQ0286-B14	V R(BRIGHT)	10kΩ	B
VR4203	QVQ0286-B14	V R(COLOR)	10kΩ	B
VR4204	QVQ0286-B14	V R(PHASE)	10kΩ	B

RESISTOR

R4102-05	QRE141J-681Y	C R	680Ω	1/4W J
R4106-08	QRE141J-822Y	C R	8.2kΩ	1/4W J
R4201-04	QRE141J-333Y	C R	33kΩ	1/4W J
R4205	QRE141J-472Y	C R	4.7kΩ	1/4W J

CAPACITOR

C4101	QETN1CM-476Z	E CAP.	47μF	16V M
C4102	QCB31HK-103Z	C CAP.	0.01μF	50V K

DIODE

D4101-03	1SS133-T2	SI.DIODE		
D4105-08	1SS133-T2	SI.DIODE		
D4111-14	GL2EG6	L.E.D. (GRN)		
D4201-04	RD5.6ES/B2/-T2	ZENER DIODE		

TRANSISTOR

Q4102	DTA124ES-T	DIGI. TRANSISTOR		
Q4103-05	DTC124ES-T	DIGI. TRANSISTOR		

OTHERS

S4101	CM46978-A01-H	L.E.D. HOLDER		
S4102	QSP4H11-C12Z	PUSH SWITCH	(INPUT A)	
S4103	QSP4H11-C12Z	PUSH SWITCH	(INPUT B)	
S4105	QSP4H11-C12Z	PUSH SWITCH	(INPUT C)	
S4106	QSP4H11-C12Z	PUSH SWITCH	(MENU)	
S4107	QSP4H11-C12Z	PUSH SWITCH	(VOLUME -)	
S4108	QSP4H11-C12Z	PUSH SWITCH	(VOLUME +)	
S4110	QSP4K21-C01	PUSH SWITCH	(SELECT)	
			(POWER)	

INPUT PW BOARD ASS'Y (FX-6063A)

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R6101-02	NRSA02J-151X	MG R	150Ω	1/10W J
R6103-04	NRSA02J-221X	MG R	220Ω	1/10W J
R6105	NRSA02J-104X	MG R	100kΩ	1/10W J
R6106	NRSA02J-124X	MG R	120kΩ	1/10W J
R6107	NRSA02J-472X	MG R	4.7kΩ	1/10W J
R6108	NRSA02J-0R0X	MG R	0.0Ω	1/10W J
R6109-10	NRSA02J-151X	MG R	150Ω	1/10W J
R6111-12	NRSA02J-221X	MG R	220Ω	1/10W J

R6113	NRSA02J-333X	MG R	33kΩ	1/10W J
R6114	NRSA02J-473X	MG R	47kΩ	1/10W J
R6115	NRSA02J-222X	MG R	2.2kΩ	1/10W J
R6116	NRSA02J-0R0X	MG R	0.0Ω	1/10W J
R6117	NRSA02J-153X	MG R	15kΩ	1/10W J
R6118	NRSA02J-103X	MG R	10kΩ	1/10W J
R6119-20	NRSA02J-151X	MG R	150Ω	1/10W J
R6121	NRSA02J-123X	MG R	12kΩ	1/10W J

R6122	NRSA02J-153X	MG R	15kΩ	1/10W J
R6123	NRSA02J-392X	MG R	3.9kΩ	1/10W J
R6124	NRSA02J-123X	MG R	12kΩ	1/10W J
R6125	NRSA02J-562X	MG R	5.6kΩ	1/10W J
R6126	NRSA02J-181X	MG R	180Ω	1/10W J
R6127	NRSA02J-151X	MG R	150Ω	1/10W J
R6128-29	NRSA02J-331X	MG R	330Ω	1/10W J
R6130	NRSA02J-393X	MG R	39kΩ	1/10W J

R6131	NRSA02J-124X	MG R	120kΩ	1/10W J
R6132	NRSA02J-152X	MG R	1.5kΩ	1/10W J
R6133	NRSA02J-0R0X	MG R	0.0Ω	1/10W J
R6134	NRSA02J-181X	MG R	180Ω	1/10W J
R6135	NRSA02J-151X	MG R	150Ω	1/10W J
R6136-37	NRSA02J-331X	MG R	330Ω	1/10W J
R6138	NRSA02J-393X	MG R	39kΩ	1/10W J
R6139	NRSA02J-333X	MG R	33kΩ	1/10W J

R6140	NRSA02J-152X	MG R	1.5kΩ	1/10W J
R6141	NRSA02J-0R0X	MG R	0.0Ω	1/10W J
R6142	NRSA02J-181X	MG R	180Ω	1/10W J
R6143	NRSA02J-151X	MG R	150Ω	1/10W J
R6144-45	NRSA02J-331X	MG R	330Ω	1/10W J
R6146	NRSA02J-393X	MG R	39kΩ	1/10W J
R6147	NRSA02J-333X	MG R	33kΩ	1/10W J
R6148	NRSA02J-152X	MG R	1.5kΩ	1/10W J

R6149	NRSA02J-0R0X	MG R	0.0Ω	1/10W J
R6150-52	NRSA02J-221X	MG R	220Ω	1/10W J
R6153-54	NRSA02J-331X	MG R	330Ω	1/10W J
R6155-56	NRSA02J-333X	MG R	33kΩ	1/10W J
R6157	NRSA02J-102X	MG R	1kΩ	1/10W J
R6158	NRSA02J-0R0X	MG R	0.0Ω	1/10W J
R6159-61	NRSA02J-221X	MG R	220Ω	1/10W J
R6162-63	NRSA02J-331X	MG R	330Ω	1/10W J

R6164-65	NRSA02J-333X	MG R	33kΩ	1/10W J
R6166	NRSA02J-102X	MG R	1kΩ	1/10W J
R6167	NRSA02J-0R0X	MG R	0.0Ω	1/10W J
R6169	NRSA02J-102X	MG R	1kΩ	1/10W J
R6170	NRSA02J-563X	MG R	56kΩ	1/10W J
R6171	NRSA02J-683X	MG R	68kΩ	1/10W J
R6172	NRSA02J-102X	MG R	1kΩ	1/10W J
R6174-75	NRSA02J-102X	MG R	1kΩ	1/10W J

R6177	NRSA02J-123X	MG R	12kΩ	1/10W J
R6178-81	NRSA02J-102X	MG R	1kΩ	1/10W J
R6185	NRSA02J-103X	MG R	10kΩ	1/10W J
R6186	NRSA02J-153X	MG R	15kΩ	1/10W J
R6187	NRSA02J-101X	MG R	100Ω	1/10W J
R6308-12	NRSA02J-151X	MG R	150Ω	1/10W J
R6313-17	NRSA02J-103X	MG R	10kΩ	1/10W J
R6318	NRSA02J-392X	MG R	3.9kΩ	1/10W J

R6319	NRSA02J-103X	MG R	10kΩ	1/10W J
R6320	NRSA02J-472X	MG R	4.7kΩ	1/10W J
R6321	NRSA02J-332X	MG R	3.3kΩ	1/10W J
R6322	NRSA02J-472X	MG R	4.7kΩ	1/10W J
R6324-25	NRSA02J-151X	MG R	150Ω	1/10W J

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C6101	QEK1CM-107Z	E CAP.	100μF	16V	M
C6102	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6103	QEK1CM-475Z	E CAP.	4.7μF	50V	M
C6105	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6106	QEK1CM-476Z	E CAP.	47μF	16V	M
C6108	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6111	QEK1CM-107Z	E CAP.	100μF	16V	M
C6112	QEK1CM-476Z	E CAP.	47μF	16V	M

C6114	QEK1CM-476Z	E CAP.	47μF	16V	M
C6116	QEK1CM-476Z	E CAP.	47μF	16V	M
C6118	QEK1CM-476Z	E CAP.	47μF	16V	M
C6119	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6120	QEK1CM-106Z	E CAP.	10μF	16V	M
C6122	QEK1CM-106Z	E CAP.	10μF	16V	M
C6124-25	NDC21HJ-181X	C CAP.	180pF	50V	J
C6126	QEK1CM-105Z	E CAP.	1μF	50V	M

C6127	NDC21HJ-390X	C CAP.	39pF	50V	J
C6128	NDC21HJ-181X	C CAP.	180pF	50V	J
C6129	QEK1CM-107Z	E CAP.	100μF	16V	M
C6130	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6201	QEK1CM-107Z	E CAP.	100μF	16V	M
C6202	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6203-05	QEK1CM-227Z	E CAP.	220μF	6.3V	M
C6208	NDC21HJ-390X	C CAP.	39pF	50V	J

C6213-15	QEK1CM-227Z	E CAP.	220μF	6.3V	M
C6301	QEK1CM-107Z	E CAP.	100μF	10V	M
C6302	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6307	QEK1CM-476Z	E CAP.	47μF	16V	M
C6308	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6309	QEK1CM-107Z	E CAP.	100μF	10V	M
C6310	NCB21HK-103X	C CAP.	0.01μF	50V	K
C6311	QFV71HJ-104Z	TF CAP.	0.1μF	50V	J

DIODE

D6101-06	1SS353-X	SI. DIODE			
D6107	MA157-X	DIODE			
D6109	MA157-X	DIODE			
D6111	MA157-X	DIODE			
D6113-16	1SS353-X	SI. DIODE			
D6119-20	1SS353-X	SI. DIODE			
D6121-23	MA157-X	DIODE			
D6125-27	MA3056/M/-X	ZENER DIODE			

D6128-31	1SS353-X	SI. DIODE			
D6132-34	MA157-X	DIODE			
D6135	MTZ15.6B-T2	ZENER DIODE			
D6308-17	1SS353-X	SI. DIODE			

TRANSISTOR

Q6101-03	2SC2712/YG/-X	SI. TRANSISTOR			
Q6104-06	2SC3773/3-4/-X	SI. TRANSISTOR			
Q6107-09	2SC2712/YG/-X	SI. TRANSISTOR			
Q6110-16	DTC124EKA-X	DIGI. TRANSISTOR			
Q6118	2SC2712/YG/-X	SI. TRANSISTOR			
Q6119	DTC124EKA-X	DIGI. TRANSISTOR			
Q6301	2SC2712/YG/-X	SI. TRANSISTOR			
Q6302	DTC124EKA-X	DIGI. TRANSISTOR			

IC

IC6101	TC4053BF/N/-XE	I.C. (DIGI-MOS)			
IC6301	ADM237LJR	I.C. (HYBRID)			
IC6302	JLC1562BF-X	I.C. (DIGI-MOS)			

△ Symbol No. Part No. Part Name Description Local

OTHERS

	CM12874-A04	TERMINAL BRACKET			
EF6101-03	CE42482-470Y	EMI FILTER			
J6001-04	QNZ0036-001	BNC CONNECTOR			
J6005	QMC006-C01	DIN CONNECTOR			
J6010	QMC0502-C01	DIN JACK			
J6011	CEMN054-002	PIN JACK			
△ RY6101	CESK024-001	RELAY			
△ RY6102	CESK024-001	RELAY			
△ RY6103	CESK024-001	RELAY			
△ RY6104	CESK024-001	RELAY			
△ RY6105	CESK024-001	RELAY			
△ RY6106	CESK024-001	RELAY			

AUDIO PW BOARD ASS'Y (FX-8012A)

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R8501	QRE141J-102Y	C R	1kΩ	1/4W	J
R8502	QRE141J-221Y	C R	220Ω	1/4W	J
R8503	QRE141J-223Y	C R	22kΩ	1/4W	J
R8504	QRE141J-100Y	C R	10Ω	1/4W	J
R8506	QRE141J-103Y	C R	10kΩ	1/4W	J
R8507	QRE141J-102Y	C R	1kΩ	1/4W	J
R8510	QRE121J-181Y	C R	180Ω	1/2W	J
R8511	QRX01GJ-R47	MF R	0.47Ω	1W	J

CAPACITOR

C8501	QEH1CM-107Z	E CAP.	100μF	16V	M
C8502	QEH1CM-228	E CAP.	2200μF	16V	M
C8505	QEH1CM-105Z	E CAP.	1μF	50V	M
C8506	QFLC1HJ-333Z	M CAP.	0.033μF	50V	J
C8507	QEH1CM-475Z	E CAP.	4.7μF	50V	M
C8508-09	QEH1CM-106Z	E CAP.	10μF	50V	M
C8510-11	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J
C8512	QEH1CM-228	E CAP.	2200μF	16V	M
C8514	QEH1CM-227Z	E CAP.	220μF	16V	M
C8515	QEH1CM-225Z	E CAP.	2.2μF	50V	M
C8516	QEH1CM-106Z	E CAP.	10μF	50V	M
C8517	QEH1CM-228	E CAP.	2200μF	16V	M

COIL

L8501	QQL01BK-4R7Z	PEAKING COIL	4.7μH		
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DIODE

D8501	RD11ES/B3/-T2	ZENER DIODE			
D8502	1SR124-400A-T2	SI. DIODE			

IC

IC8501	AN5265	I.C. (MONO-ANA)			
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SUB POWER PW BOARD ASS'Y (FX-9057A)

Symbol No.	Part No.	Part Name	Description	Local
IC				
IC9901	TA79012S	I.C. (MONO-ANA)		

DEF PRO MODULE PW BOARD ASS'Y (FX-M013A)

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R0105-07	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0108-09	NRSA02J-151X	MG R	150Ω 1/10W J	
R0110	NRSA02J-273X	MG R	27kΩ 1/10W J	
R0111-12	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0113-21	NRSA02J-151X	MG R	150Ω 1/10W J	
R0122	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0123	NRSA02J-151X	MG R	150Ω 1/10W J	
R0124-25	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0126-39	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0140	NRSA02J-151X	MG R	150Ω 1/10W J	
R0150-53	NRSA02J-221X	MG R	220Ω 1/10W J	
R0154	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
R0156	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0157	NRSA02J-221X	MG R	220Ω 1/10W J	
R0160	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
R0161	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0164-65	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0167-68	NRSA02J-151X	MG R	150Ω 1/10W J	
R0169-70	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0176-77	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0401-06	NRSA02J-101X	MG R	100Ω 1/10W J	
R0408	NRSA02J-393X	MG R	39kΩ 1/10W J	
R0409	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0411	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
R0412	NRSA02J-104X	MG R	100kΩ 1/10W J	
R0413	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R0414	NRSA02J-682X	MG R	6.8kΩ 1/10W J	
R0415	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0416	NRSA02J-682X	MG R	6.8kΩ 1/10W J	
R0417	NRSA02J-101X	MG R	100Ω 1/10W J	
R0418	NRSA02J-104X	MG R	100kΩ 1/10W J	
R0419-20	NRSA02J-473X	MG R	47kΩ 1/10W J	
R0421	NRSA02J-223X	MG R	22kΩ 1/10W J	
R0422	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
R0424-25	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0426	NRSA02J-223X	MG R	22kΩ 1/10W J	
R0428	NRSA02J-123X	MG R	12kΩ 1/10W J	
R0429	NRSA02J-682X	MG R	6.8kΩ 1/10W J	
R0430	NRSA02J-563X	MG R	56kΩ 1/10W J	
R0431	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
R0501-05	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0506	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0507	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R0508	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0509	NRSA02J-683X	MG R	68kΩ 1/10W J	
R0510	NRSA02J-822X	MG R	8.2kΩ 1/10W J	
R0511	NRSA02J-272X	MG R	2.7kΩ 1/10W J	
R0512	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0513	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0514	NRSA02J-392X	MG R	3.9kΩ 1/10W J	
R0515	NRSA02J-273X	MG R	27kΩ 1/10W J	

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				

R0516	NRSA02J-104X	MG R	100kΩ 1/10W J	
R0517	NRSA02J-683X	MG R	68kΩ 1/10W J	
R0518-19	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0520	NRSA02J-151X	MG R	150Ω 1/10W J	
R0521	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0522-23	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0524	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R0525	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
R0527-28	NRSA02J-220X	MG R	22Ω 1/10W J	
R0560	NRSA02J-104X	MG R	100kΩ 1/10W J	
R0561	NRSA02J-100X	MG R	10Ω 1/10W J	
R0562	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0563	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0564	NRSA02J-273X	MG R	27kΩ 1/10W J	
R0565	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0566	NRSA02J-123X	MG R	12kΩ 1/10W J	
R0567	NRSA02J-393X	MG R	39kΩ 1/10W J	
R0568-70	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0571	NRSA02J-182X	MG R	1.8kΩ 1/10W J	
R0572	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0573	NRSA02J-150X	MG R	15Ω 1/10W J	
R0574	NRSA02J-682X	MG R	6.8kΩ 1/10W J	
R0575	NRSA02J-100X	MG R	10Ω 1/10W J	
R0577	NRSA02J-121X	MG R	120Ω 1/10W J	
R0578	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0579	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R0580	NRSA02J-104X	MG R	100kΩ 1/10W J	
R0581	NRSA02J-153X	MG R	15kΩ 1/10W J	
R0582	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0583	NRSA02J-101X	MG R	100Ω 1/10W J	
R0584	NRSA02J-822X	MG R	8.2kΩ 1/10W J	
R0585	NRSA02J-821X	MG R	820Ω 1/10W J	
R0586	NRSA02J-823X	MG R	82kΩ 1/10W J	
R0587	NRSA02J-273X	MG R	27kΩ 1/10W J	
R0588	NRSA02J-153X	MG R	15kΩ 1/10W J	
R0589	NRSA02J-473X	MG R	47kΩ 1/10W J	
R0590-91	NRSA02J-104X	MG R	100kΩ 1/10W J	
R0592	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0593	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0594	NRSA02J-473X	MG R	47kΩ 1/10W J	
R0595	NRSA02J-562X	MG R	5.6kΩ 1/10W J	
R0596	NRSA02J-333X	MG R	33kΩ 1/10W J	
R0597-98	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0599	NRSA02J-103X	MG R	10kΩ 1/10W J	
R0601	NRSA02J-102X	MG R	1kΩ 1/10W J	
R0602-03	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R0606	NRSA02J-104X	MG R	100kΩ 1/10W J	
R0608	NRSA02J-393X	MG R	39kΩ 1/10W J	

CAPACITOR

C0103	QEK1CM-476Z	E CAP.	47μF	16V	M
C0104	NCB21HK-473X	C CAP.	0.047μF	50V	K
C0105	NDC21HJ-101X	C CAP.	100pF	50V	J
C0106	QEK1CM-476Z	E CAP.	47μF	16V	M
C0107-08	NCB21EK-104X	C CAP.	0.1μF	25V	K
C0109	NDC21HJ-220X	C CAP.	22pF	50V	J
C0110-11	QEK1CM-476Z	E CAP.	47μF	16V	M
C0112-13	NCB21EK-104X	C CAP.	0.1μF	25V	K
C0114-16	NCB21HK-103X	C CAP.	0.01μF	50V	K
C0117	NDC21HJ-471X	C CAP.	470pF	50V	J
C0401-03	NDC21HJ-102X	C CAP.	1000pF	50V	J
C0404	NCB21EK-104X	C CAP.	0.1μF	25V	K
C0405-06	NDC21HJ-102X	C CAP.	1000pF	50V	J
C0407	QEK1CM-476Z	E CAP.	47μF	16V	M
C0408	QFV71HJ-394Z	MF CAP.	0.39μF	50V	J
C0409	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J
C0410	NCB21HK-103X	C CAP.	0.01μF	50V	K
C0411	NDC21HJ-151X	C CAP.	150pF	50V	J

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C0412	QEN61CM-336Z	BP E CAP.	33μF 16V	M
C0413	QEN61CM-106Z	BP E CAP.	10μF 16V	M
C0414	QEK1CM-106Z	E CAP.	10μF 16V	M
C0415	QEK1CM-476Z	E CAP.	47μF 16V	M
C0416	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0417	QEK1CM-476Z	E CAP.	47μF 16V	M
C0418	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0419	QEK1CM-476Z	E CAP.	47μF 16V	M
C0420	QEN60JM-476Z	BP E CAP.	47μF 6.3V	M
C0421	NCB21HK-223X	C CAP.	0.022μF 50V	K
C0422	QEK1CM-107Z	E CAP.	100μF 6.3V	M
C0501-05	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0506	QEK1CM-106Z	E CAP.	10μF 16V	M
C0507-08	QETN1AM-477Z	E CAP.	470μF 10V	M
C0510	NCB21HK-473X	C CAP.	0.047μF 50V	K
C0511	QEK1CM-476Z	E CAP.	47μF 16V	M
C0512	NCB21CK-224X	C CAP.	0.22μF 16V	K
C0513	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0514	QFV71HJ-104Z	MF CAP.	0.1μF 50V	J
C0515	NDC21HJ-821X	C CAP.	820pF 50V	J
C0516	QEK1CM-105Z	E CAP.	1μF 50V	M
C0517	NDC21HJ-271X	C CAP.	270pF 50V	J
C0518	QEN60JM-476Z	BP E CAP.	47μF 6.3V	M
C0519-20	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0521	QEK1CM-476Z	E CAP.	47μF 16V	M
C0522	NDC21HJ-102X	C CAP.	1000pF 50V	J
C0524	NCB21HK-332X	C CAP.	3300pF 50V	K
C0525	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0526	QEK1CM-106Z	E CAP.	10μF 16V	M
C0527	QEK1CM-476Z	E CAP.	47μF 16V	M
C0561	QEK1CM-336Z	E CAP.	33μF 16V	M
C0562	QEK1CM-107Z	E CAP.	100μF 16V	M
C0567	NCB21HK-223X	C CAP.	0.022μF 50V	K
C0568	QEN1AM-107Z	BP E CAP.	100μF 10V	M
C0569	NCB21HK-473X	C CAP.	0.047μF 50V	K
C0570	NCB21HK-103X	C CAP.	0.01μF 50V	K
C0571	QEK1CM-475Z	E CAP.	4.7μF 50V	M
C0572	NCB21HK-392X	C CAP.	3900pF 50V	K
C0573	QEK1CM-107Z	E CAP.	100μF 6.3V	M
C0574	NCB21HK-332X	C CAP.	3300pF 50V	K
C0575	NDC21HJ-101X	C CAP.	100pF 50V	J
C0576	NDC21HJ-102X	C CAP.	1000pF 50V	J
C0577	NCB21HK-103X	C CAP.	0.01μF 50V	K
C0578	QEN61CM-106Z	BP E CAP.	10μF 16V	M
C0580	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0581-82	QEK1CM-476Z	E CAP.	47μF 16V	M
C0583	NCB21EK-104X	C CAP.	0.1μF 25V	K
C0584	NCB21HK-103X	C CAP.	0.01μF 50V	K
C0589	QEK1CM-106Z	E CAP.	10μF 16V	M

Symbol No.	Part No.	Part Name	Description	Local
COIL				
L0102	NQL024J-3R3X	COIL	3.3μH	

DIODE

D0105-06	1SS353-X	SI DIODE
D0107	MA3056/M/-X	ZENER DIODE
D0401-03	1SS353-X	SI DIODE
D0501-02	1SS353-X	SI DIODE
D0506	MA3051/M/-X	ZENER DIODE
D0507	1SS353-X	SI DIODE
D0509-11	1SS353-X	SI DIODE

TRANSISTOR

Q0101	DTC144EKA-X	DIGI. TRANSISTOR
Q0404-05	DTC144EKA-X	DIGI. TRANSISTOR
Q0516	2SA1162/YG/-X	SI. TRANSISTOR
Q0517	2SC2712/YG/-X	SI. TRANSISTOR
Q0518	2SA1162/YG/-X	SI. TRANSISTOR
Q0519	DTC144EKA-X	DIGI. TRANSISTOR
Q0520	2SA1162/YG/-X	SI. TRANSISTOR
Q0521-23	2SC2712/YG/-X	SI. TRANSISTOR

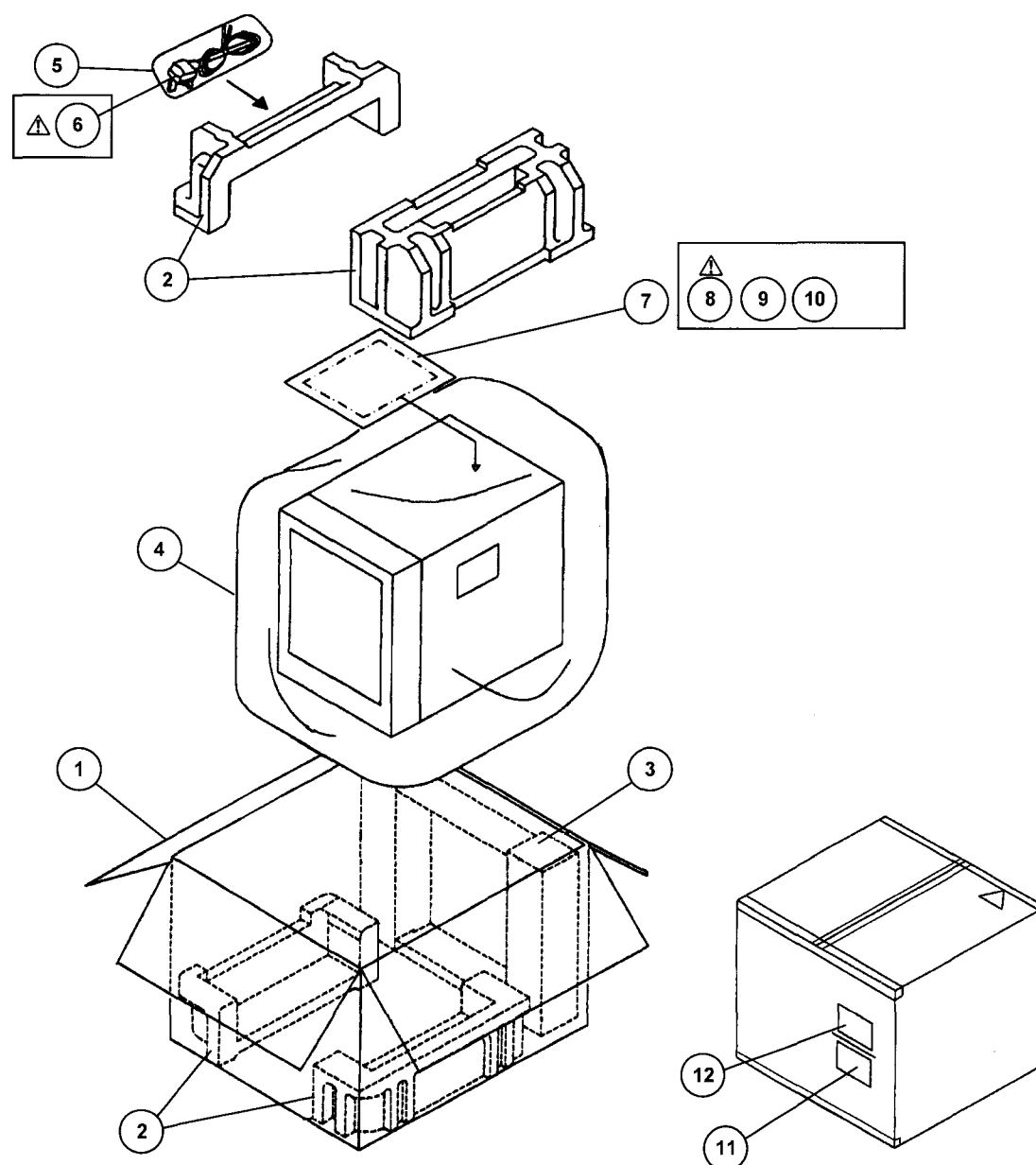
IC

IC0105	MB89P625RPF-###	I C
IC0106	MN1280/Q/	I.C. (DIGI-MOS)
IC0107	TC4066BF/N/-XE	I.C. (DIGI-MOS)
IC0404-05	UPC4558G-W	I.C. (MONO-ANA)
IC0501	UPC1883CT	I C
IC0502	UPC4558G-W	I.C. (MONO-ANA)
IC0503	MB88345PF	D/A CONVERTER
IC0504	UPC4558G-W	I.C. (MONO-ANA)
IC0505	FA5301BN	I C

OTHERS

CF0102	LC40030-001A	SHEET
K0101	CE41433-001Z	CER. RESONATOR
		BEADS CORE

PACKING



PACKING PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
1	LC10275-009C	PACKING CASE		
2	CP11655-00A	CUSHION ASSY	4pcs in 1set	
3	LC10451-001A	CUSHION SPACER		
4	CP30974-005	POLY BAG		
5	QPA01203005	POLY BAG		
△ 6	QMP1110-244K	POWER CORD		
7	QPA02503505P	POLY BAG		
△ 8	LCT0537-001A	INST BOOK		
9	BT-51010-2	WARRANTY CARD		
10	BT-20104A	SERVICE CARD		
11	CM21428-00A	CARD		
12	CM47385-00A	POS/SERIAL LABEL		

MEMO

MEMO

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SERVICE MANUAL

DTV MONITOR

BASIC CHASSIS

P2B1

DT-V2000SU_{/A}

Supplementary

Since some details of the DT-V2000SU/A service manual (No.51519B Aug. 1999) were incorrect, we are informing you of there errors and of the mew correct descriptions.

■ CORRECTED ITEM

PRINTED WIRING BOARD PARTS LIST

PARTS SUPPLY method:

Please be informed that the service parts supply method for the DEF. PRO module PWB Ass'y has been changed to the MODULE SUPPLY method as follows.

DEF. PRO MODULE P.W. BOARD ASS'Y [P78~P80]

PREVIOUS PWB ASS'Y Method						NEW (MODULE) Method					
DEF PRO MODULE PW BOARD ASS'Y (FX-M013A)						DEF PRO MODULE PW BOARD ASS'Y (FX-M013A)					
△	Symbol No.	Part No.	Part Name	Description	Local	△	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR						OTHERS					
R0105-07	NRSA02J-472X	MG R	1.7k□ 1/10W	J							
R0108-09	NRSA02J-151X	MG R	150□ 1/10W	J							
R0110	NRSA02J-273X	MG R	27k□ 1/10W	J							
R0111-12	NRSA02J-472X	MG R	4.7k□ 1/10W	J							
R0113-21	NRSA02J-151X	MG R	150□ 1/10W	J							
R0122	NRSA02J-102X	MG R	1k□ 1/10W	J							
R0123	NRSA02J-151X	MG R	150□ 1/10W	J							
R0124-25	NRSA02J-102X	MG R	1k□ 1/10W	J							
R0126-39	NRSA02J-472X	MG R	4.7k□ 1/10W	J							
R0140	NRSA02J-151X	MG R	150□ 1/10W	J							
R0150-53	NRSA02J-221X	MG R	220□ 1/10W	J							
R0154	NRSA02J-0R0X	MG R	0.0□ 1/10W	J							
R0156	NRSA02J-103X	MG R	10k□ 1/10W	J							
						FX-M013A DEF. PRO MPDULE					